PROPOSED PART 8 RESIDENTIAL DEVELOPMENT

COOLAGHKNOCK GLEBE, KILDARE

TRAFFIC MOBILITY MANAGEMENT PLAN

KILDARE COUNTY COUNCIL

May 2024

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Contents Amendment Record

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Title: **Proposed Part 8 Residential Development – Coolaghknock Glebe, Kildare Traffic Mobility Management Plan / Kildare County Council**

Job Number: 23006

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1   INTRODUCTION

1.1 Introduction

This report is prepared in support of a planning application by the National Development Finance Agency on behalf of Kildare County Council for a proposed residential development on a site with access off Connagh Road, south of Melitta Road in the townland of Coolaghknock Glebe, Kildare, Co. Kildare.

The purpose of this document is to define a Traffic Mobility Management Plan (TMMP) for the proposed development.

The TMMP provides an assessment of existing traffic and mobility issues relating to accessing the site, It outlines the process of development of the TMMP Strategy and finally it examines the scope available for sustainable modes of transport to and from the site.

This TMMP has been prepared to guide the delivery and management of a package of integrated initiatives which seek to encourage and embed sustainable travel choices by residents from the outset of the development's occupation.

A successfully implemented TMMP can provide reductions in car usage, particularly influencing levels of single-occupancy car travel, with increased trips made by car-sharing, public transport, walking and cycling, and can improve road safety and personal security for pedestrians and cyclists.

Mobility Management is about improving the development site's access from the outset – by designing for and enabling and promoting sustainable travel options (e.g., walking, car-sharing, cycling and public transport) to residents – and by reducing the need to travel by car from the development to access essential services and amenities. TMMPs can also improve the health and wellbeing of residents through the benefits of active travel and reduce the transport-related carbon impact of the development. A TMMP specifically focuses on journeys made from a single origin (home) to multiple destinations.

1.2 Site Overview

The development site is located on a greenfield site approximately 1.20km west of Kildare town centre. The site is located off the R413 which runs from the centre of Kildare Town eastwards to Newbridge. The other main routes serving the town include the R445 (connecting Naas – Limerick), the R415 (which runs north-south from Allenwood passing through Kildare Town and crossing between Athy), the R401 (connecting Kinnear, Co. Meath – Kildare Town) and the M7 motorway (runs continuously from the outskirts of Naas to Limerick). Kildare railway station is located 1.5km to the northwest of the site. The railway station is on the Dublin to Cork Railway Line.

The site is bounded to the north and western side by existing residential development and to the south and east by undeveloped agricultural land. The site is accessed via the existing housing development to the north. The primary access route from the site is from Connagh Road to the north of the site. The site is located approximately 50km west of Dublin, 5.90km to the west of Newbridge and 16km to the west of Naas. Figure 1 below refers.
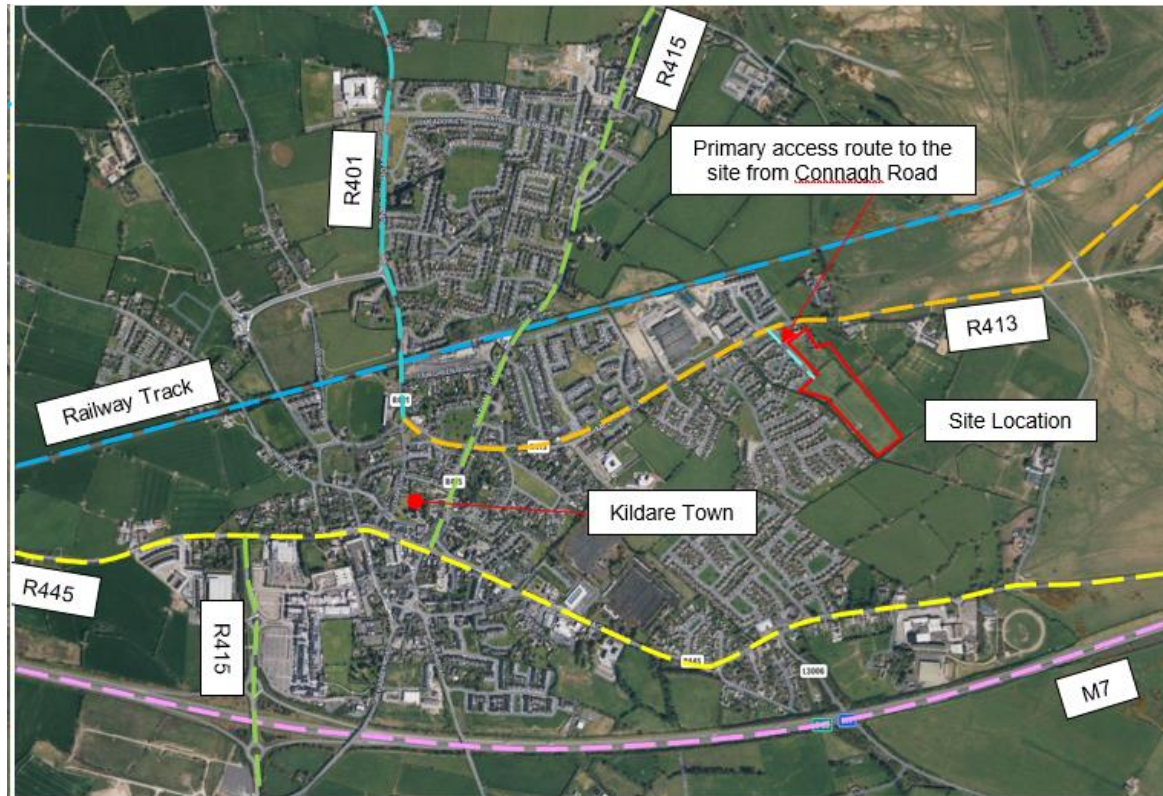
Figure 1 – Site Location showing the indicative Site Boundary and Adjacent Developments

1.3 Proposed Development

The proposed development includes:

i.   131 no. residential units including 89 no. houses and 42 no. own door apartment / duplex units to be delivered on a phased basis, comprising 42 no. one bed units; 36 no. two bed units; 45 no. three bed units; and 8 no. four bed units; with renewable energy design measures (which may be provided externally) for each housing unit;

ii.   Rear garden sheds serving the residential units;

iii. 1 no. crèche facility of 325sqm with potential for community use until such time as crèche becomes viable;

iv.   Landscaping works including provision of (a) open space and kick about areas; (b) natural play features; (c) new pedestrian and cycle connections; and (d) attenuation pond;

v.   Associated site and infrastructural works, including provision for (a) 2 no. ESB substations and switchrooms; (b) car and bicycle parking; (d) public lighting; (e) bin storage; (f) temporary construction signage; (g) estate signage; and (h) varied site boundary treatment comprising walls and fencing; and

vi.   all associated site development works.
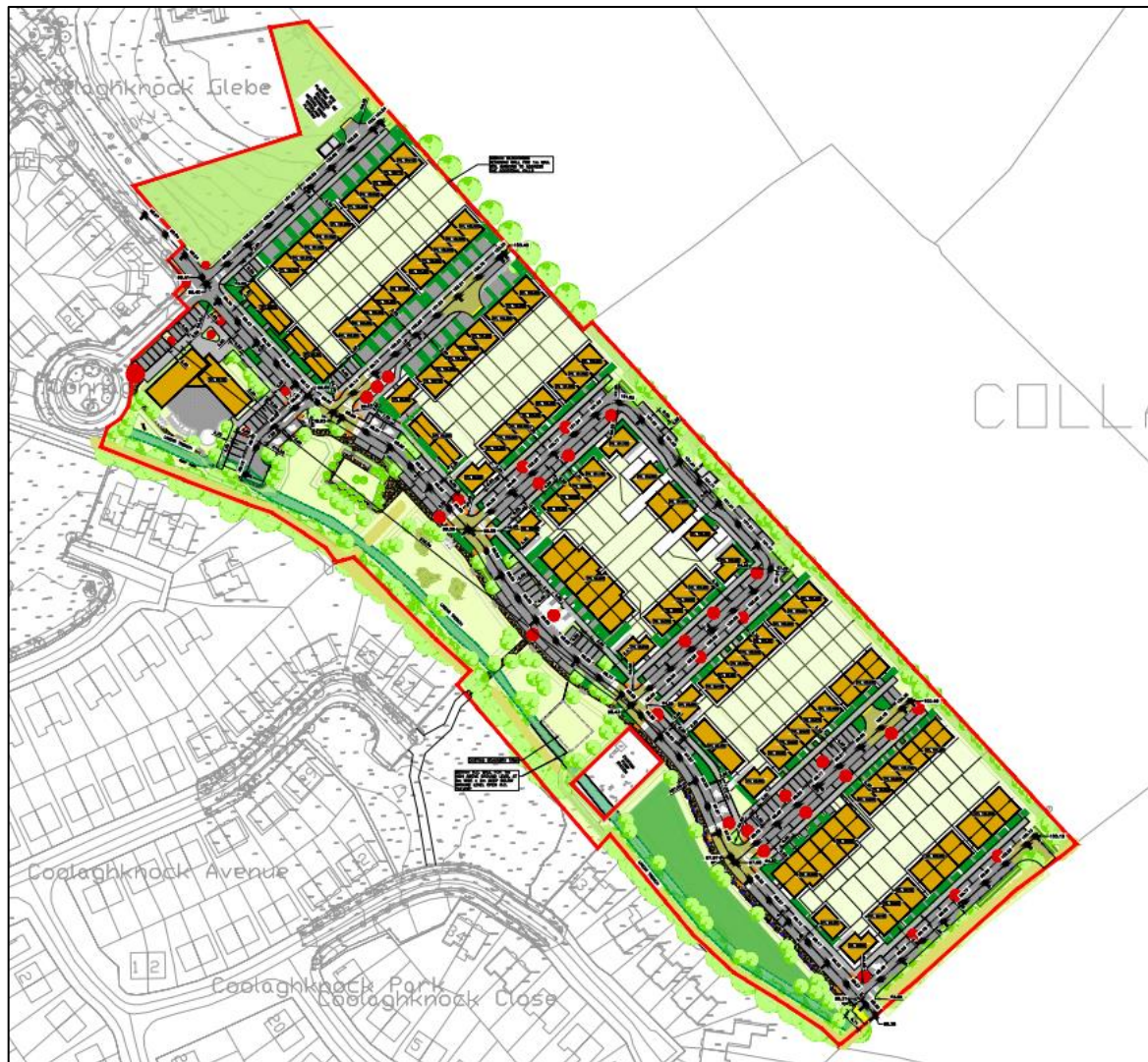
Figure 2 – Proposed Site Layout

1.4 Report Structure

This report sets out the background, context, and objectives of the plan, and describes a package of measures to promote and provide for the use of sustainable modes as an alternative to single occupancy car use to the development. A strategy for implementation, target setting and monitoring is also discussed. The report is set out in the following structure:

- Chapter 1: introduction.
- Chapter 2: Mobility Management Context.
- Chapter 3: Planning Policy Context.
- Chapter 4: Baseline Review of Existing Transport Network.
- Chapter 5: Traffic Impact.
- Chapter 6: Pre-Occupation Baseline Mode Share.
- Chapter 7: Aims and Objectives of the TMMP.
- Chapter 8: Mobility Management Measures.
- Chapter 9: Monitoring and Review.

2   MOBILITY MANAGEMENT CONTEXT

2.1 What is Mobility Management

Mobility Management is a concept to promote sustainable transport and manage the demand for car use by changing travellers' attitudes and behaviours. Mobility Management is about improving a site's access, by designing for and enabling and promoting sustainable travel options (e.g., walking, cycling and public transport) to residents. The use of Mobility Management is well established in Ireland through the Development Control process and policy documents set out in Chapter 3. The process involves key stakeholders such as the Local Authority, public transport operators, the developer, and future residents.

2.2 The Benefits of Mobility Management

Implementing a TMMP has the following local benefits:

- Promoting alternative uses to the car can result in less congestion and therefore improves safety on local roads by promoting alternatives to the car.
- Reduced highway capacity problems can enable more sustainable travel choices.
- The local environment will be improved from reduced congestion, carbon emissions, pollution, and noise.
- A range of travel options makes the development site attractive to potential residents.
- Increases opportunities for active healthy travel, such as walking and cycling.
- Reduces demand for parking spaces, enabling land to be put to more cost-effective or commercially beneficial use and freeing space for active travel initiatives.
- Improved travel choice, quality, and affordable access to services for all users.

2.3 Mobility Management Plan Objectives

The overarching objectives of the TMMP are to reduce levels of private car use by encouraging people to walk, cycle, use public transport and car share. It can also reduce the number of lengths trips undertaken/ required.

The specific objectives of an TMMP can vary depending upon the organisation, site characteristics and specific land uses which vary with each site. Nevertheless, in the context of a residential TMMP, objectives can include:

Residents

- Address residents need for sustainable access to a full range of facilities for work, education, health, leisure, recreation, and shopping.
- Promote healthy lifestyles and sustainable, vibrant local communities by improving the environment and the routes available for cycling and walking.

The Local Community

- Make local streets less dangerous, less noisy and les polluted while enhancing the viability of public transport.
- Reduce the traffic generated by the development for journeys both within the development and on the external road network.
- Promote equal opportunities by offering wider travel choices.
- Improve personal and wider community health.
- Reduce air and noise pollution.

2.4 Making Residential Mobility Management Plans Work

A successful TMMP will address all aspects of a development that create a need for travel by site residents. The TMMP 'pyramid' below demonstrates how successful plans are built on the firm foundations of location and site design. A TMMP should combine hard measures (e.g., cycle parking, routes to bus stops) and soft measures. All measures should be integrated into the design, marketing, and occupation of the site – with parking restraint often crucial to the success of the TMMP in reducing car use.
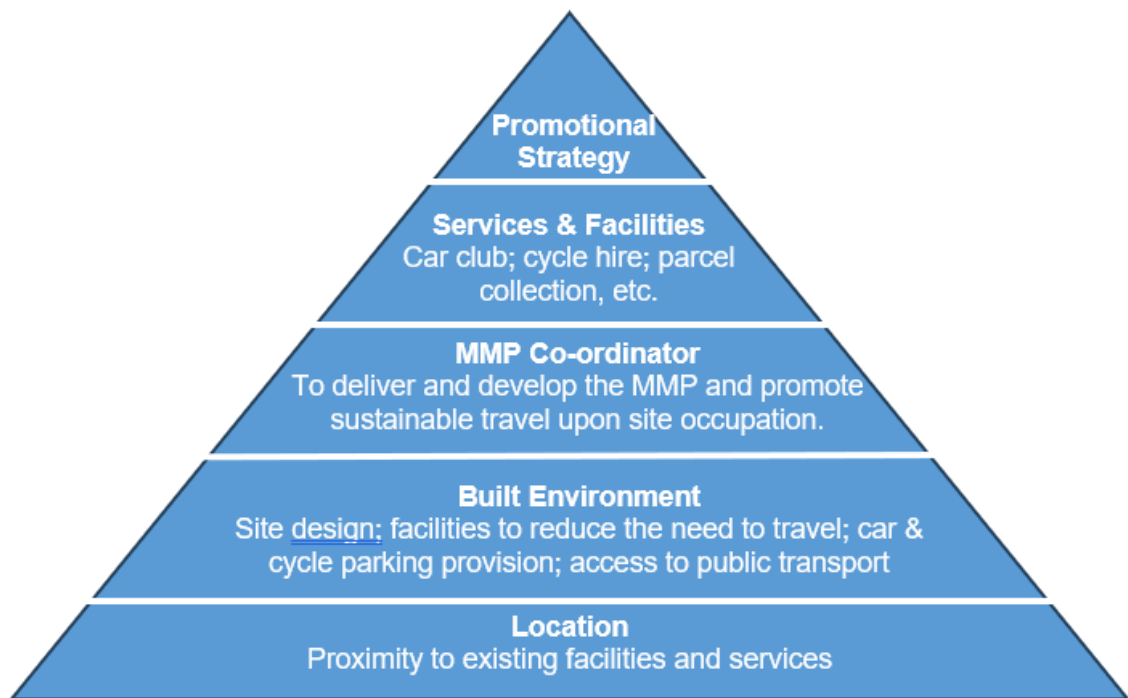

Figure 3 – The Travel Plan Pyramid

TMMPs are evolutionary documents that should be regularly updated. In this way, TMMP targets and Action Plans can be reviewed and tailored to take account of ongoing changes in travel patterns. It is therefore intended that this TMMP is the starting point of a live process and will be updated when required by circumstances.

3   PLANNING POLICY CONTEXT

3.1 Planning Policy Overview

This section provides an overview of the national, regional, and local transport and other policy drivers and strategies that underpin the requirements and benefits of implementing a TMMP for the proposed residential development.

3.2 National Policy Context

This section provides an overview of the main national policy drivers and strategies that underpin the requirements and benefits of implementing a TMMP for a residential development at the Coolaghknock site.

Ireland 2040 Our Plan – National Planning Framework

The Project Ireland 2040 - National Planning Framework (NPF) recognises that improvements in connectivity are achievable and are necessary to boost competitiveness and quality of life. The Ireland 2040 vision include the following key elements which direct relevance to mobility management.

   i.   More sustainable choices and options for people, businesses and communities that can positively influence sustainable patterns of living and working.
   ii. The highest possible quality of life for our people and communities, underpinned by high quality, well managed built and natural environments.
   iii. Significant improvement in local and international connectivity that underpins that competitiveness and quality of life of our people, businesses, communities, and regions.

The NPF has been developed to deliver the following National Strategic Outcomes which are pertinent to this report. These are to:

   i.   Improve accessibility to and between centres of mass and scale and provide better integration with their surrounding areas.
   ii. Ensure transition to more sustainable modes of travel (walking, cycling, public transport) and energy consumption (efficiency, renewables) within an urban context.

The NPF seeks to enable people to live closer to where they work, moving away from unsustainable trends of reduced community. It supports more energy efficient development through the location of housing and employment along public transport corridors, where people can choose to use less energy intensive public transport, rather than being car dependent.

3.3 Regional and Local Policy Context

This section provides an overview of the main regional and local policy drivers and strategies that underpin the context, requirements, and benefits of a TMMP for the proposed residential development.

Greater Dublin Area Transport Strategy, 2022 – 2042

The current Transport Strategy for the Greater Dublin Area provides a framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (Dublin, Meath, Wicklow, and Kildare).

The strategy set out high-level proposals for the walking, cycling, public transport and road networks, as well as parking management measures and other supporting measures for the entire GDA. The strategy aims to "To provide a sustainable, accessible, and effective transport system for the GDA which meets the regions climate change requirements, serves the needs of urban and rural communities, and supports the regional economy.

The Transport Strategy seeks to address all aspects of land-based transport with the GDA, and sets outs a variety of actions covering:

- Planning for Sustainable Transport.
- Integration and Inclusion.
- Walking, Accessibility and Public Realm.
- Cycling and Personal Mobility Vehicles.
- Public Transport – Bus, Luas, and Rail.
- Road.
- Traffic Management and Travel Options.
- Freight, Delivery and Servicing.
- Climate Action Management.

The strategy also highlights how it is necessary for the expansion of attractive public transport alternatives to car travel, to reduce congestion and emissions and enable the transport sector to cater for the demands associated with longer term population and employment growth in a sustainable manner.

Planning for Sustainable Transport

The management of transport demand where it is created is a critical element of transport planning in the GDA. The pattern of where people live, work, attend school or college and socialise is therefore the key determinant in the type of transport system that is required. The Transport Strategy includes measures that are considered essential in meeting the high-level objectives of fostering sustainable development and fully integrating land use planning and transport planning, including the following:

- Consolidation of development – to ensure more people live close to services and public transport and to minimise urban sprawl and long-distance commuting.
- Filtered permeability – so that people can move about more easily by walking and cycling than by car.
- The prioritisation of walking, cycling and public transport in urban street networks.
- Integration and Inclusion

The Transport Strategy includes a range of measures that have been developed in support of the overarching objective of an integrated transport system, including the following areas:

- Integration of all modes in Transport Schemes.
- Park and Ride provision.
- Major Interchanges and Mobility Hubs.
- Revised Fare Structure and Next Generation Ticketing.
- Mobility as a service.
- Smarter Travel Workplaces and Campuses.
- Late Night Transport.
- Walking and cycling at night.
- Accessible infrastructure.
- Travel information.
- Equality and inclusivity.

<u>Walking, Accessibility and Public Realm</u>

A high-quality walking network should be safe, coherent, direct, attractive, and comfortable as outlined in DMURS. Eight measures are set out in the Strategy including the following:

i.   Ensuring that all urban areas will be served by high quality pedestrian facilities through the implementation of footpath improvement schemes, the development of suitable maintenance programmes and the delivery of new footpaths were required.
ii. A programme of junction revisions including tighter turning radii to slow vehicles, the provision of additional pedestrian crossing points and changes to traffic signals.
iii. Support for wayfinding systems and their integration into journey planning apps.
iv. Ensuring that the needs of all pedestrians, including persons with disabilities, wheelchair users and people with children are met.

Greater Dublin Area Cycle Network Plan, 2013

The Greater Dublin Area (GDA) Cycle Network Plan sets out a 10-year strategy plan to expand the urban cycle network from 500km to 2,840km. The overarching ambition of the scheme is to increase the number of commuters who commute by bike to the same amount of those commute by bus.

The network will consist of a series of primary, secondary, feeder and greenway routes. These routes will comprise of a mix of cycle tracks and lanes, cycleways, and infrastructure-free cycle routes in low traffic environment.

The key routes around the site are part of the Mid-Kildare Sector Town Cycle Network and are listed below:

- Route KT1: Melitta Road – R415 Station Road – The Square.
- Route KT2: R445 Dublin Road – Monasterevin Road, Kildare.
- Route KT3: Greyabbey Road.
- Route K15: Naas – Newbridge (R405) – Kildare (R413) – Monasterevin
- Route K21: Rathangan – Kildare – Curragh – Kilcullen – Ballymore Eustace – Hollywood, Co. Wicklow.
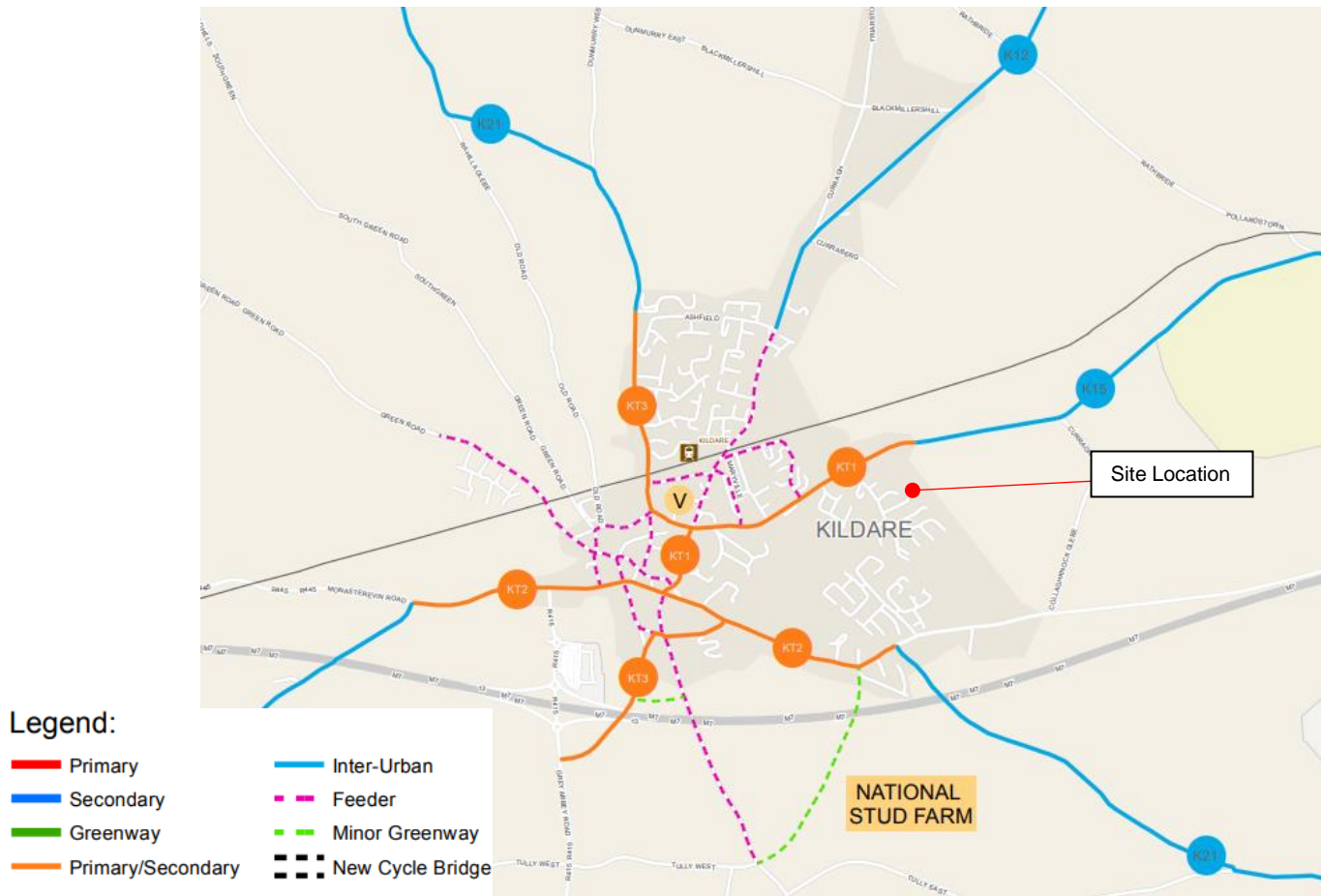
Figure 4 – Proposed Cycle Network Map

In recognition of the continued population growth of the GDA the next phase offers a 38% increase in length from that proposed in 2013. In urban areas, the potential for increased cycling with higher density has seen a concentration of routes. Furthermore, town centres across the GDA have been tasked with making improvements to their local networks to provide better access and connections to primary routes and greenways. Large population towns will see a densification to their cycle networks with localised improvements.

Kildare County Development Plan 2023 – 2029

This document sets out an overall vision for the county that includes strategies for planning and sustainable development over the period of 2023 – 2029. Chapter 5: Sustainable Mobility Transport of KCDP, the council sets out its overall policy as "Avoid – Shift – Improve" as indicated in Figure 5 below.
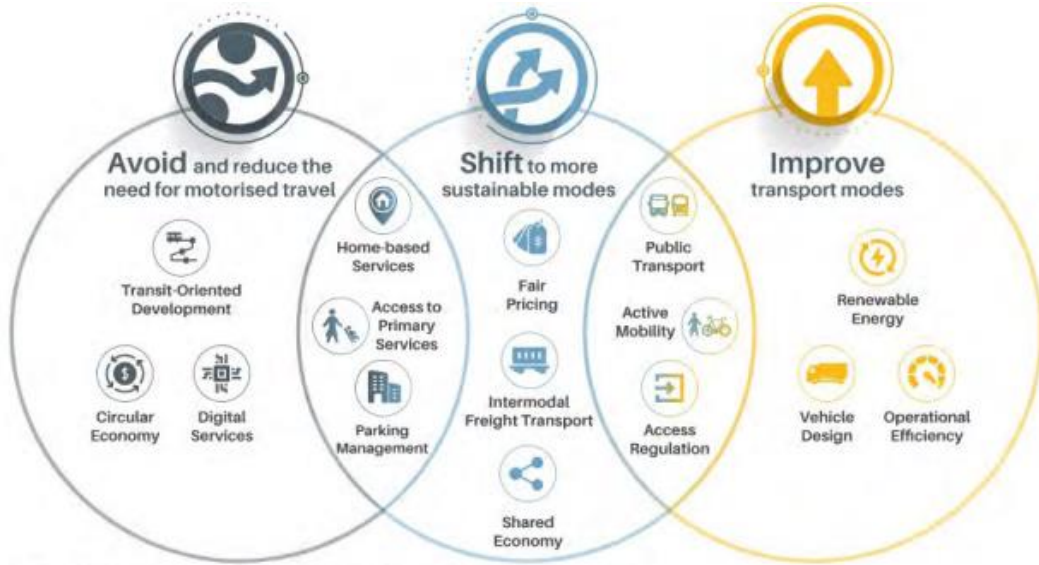
Figure 5 – Avoid – Shift – Improve

The KCDP sets out several objectives to facilitate the ultimate target of reducing the car-based trips for work and education, across the country, by 24% and 10% respectively. The plan also sets out targets for increasing the journey made by bicycle and foot over the course of the plan period, with an increase of 9% and 14% planned respectively, with higher increases for journeys to education. And finally, the Plan sets out objectives and actions to increase public transport mode share by up to 9% for journeys to work.

The Plan also sets out clear hierarchy for road users which has been incorporated into the design of the proposed development with vulnerable road users being prioritised from first concept through to the final presented designs.

Table 1 below provides a summary of the policies and objectives most relevant to this TMMP.

Table 1 – Extracts from most relevant KCDP 2023 – 2029 Policies	
Policy No.	**Details**
TM P1	**Towards a Sustainable Economy** To promote sustainable development through facilitating movement to and from, through and within the County that is accessible to all and prioritising walking, cycling and public transport.
TM P2	**Walking, Cycling and Active Travel** To prioritise and promote the development of safe and sustainable walking and cycling facilities, both inter-county and intra-county. To prioritise a shift for active travel that is accessible for all ages and abilities.
TM P3	**Public Transport** To promote the sustainable development of the County by supporting and guiding national agencies in delivering major

	improvements to the public transport network and to encourage a shift from car-based travel to public transport that is accessible for all ages and abilities.
TM P4	**Street and Road Design** To ensure that streets and roads within the city are designed to balance the needs and protect the safety of all road users and promote place making, sustainable movement and road safety providing a street environment that prioritises active travel and public transport whilst ensuring the needs of commercial servicing is accommodated.
TM P8	**Road and Street Design** Ensure that streets and roads within the county are designed to prioritise sustainable modes of transport and to provide a safe traffic calmed street environment in accordance with DMURS while meeting the needs of all ages and abilities.
TM P9	**Traffic and Transportation Management** Effectively manage and minimise the impacts of traffic in urban areas and prioritise the movement of pedestrians, cyclist, and public transport particularly

Chapter 5 of this report addresses traffic impact and parking in the context of the Kildare County Development plan and Transport Infrastructure Ireland transport assessment guidelines.

Kildare Town Transport Strategy

A transport strategy for Kildare Town was prepared by AECOM to support the future draft of the Local Area Plan for Kildare Town 2022 – 2028. Kildare town has multiple bus and rail services, creating the potential for a substantial proportion of trips to be completed via sustainable travel modes. At present, there is significant car dependency for work, school, and leisure trips. The strategy seeks to enhance existing infrastructure, while also proposing a new public transport infrastructure to guide investment in the future. The public transport options discussed are grouped by transport mode, bus travel and rail travel.

Bus Transfer Point Options

There are two sub-sections within the Buss Travel section of the Kildare Transport Strategy which assess the most suitable locations for bus transfer points as well as additional options for bus infrastructure. When considering options for potential bus transfer point sites in Kildare Town, the following criteria were considered:

- The location should be able to serve the inter-city coach and local bus routes.
- The location should allow for supporting bus priority measures.
- The location should have sufficient space for multiple bus bays.
- The land should be free from development or suitable for change of use.
- The location should be central and near trip attractors.

Four possible locations were identified as potential bus transfer points which meet the criteria above, these potential sites for a bus transfer point are shown in Figure 6 below.
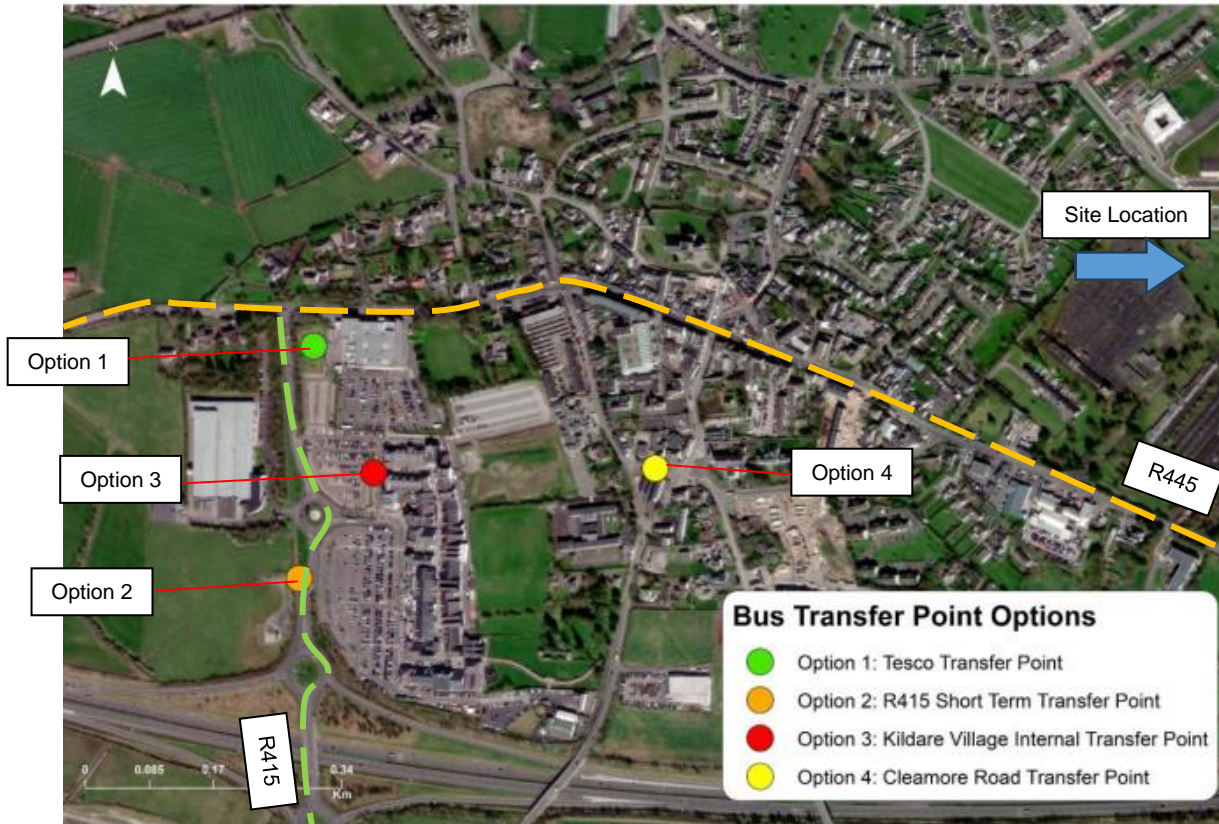

Figure 6 – Location of Potential Bus Transfer Point Options (Extract from Kildare Town Transport Strategy)

- Option 1: Located adjacent to the Tesco Store at the junction of the R415 and R445. This option would allow for interchange between the 126 bus commuter service (connecting Rathangan – Kildare – Newbridge – Dublin) and inter-city service operated by Dublin Coach. Other bus services could avail of this transfer point such as the Local Link 883 service. Existing local bus services will serve most of Kildare Town on the way to/ from the transfer point, providing access to the transfer for most people.

- Option 2: This option would require a new bus stop on the northbound section of the R415 opposite the existing Kildare Retail Village bus stop. This option would extend the 126 bus route (connecting Rathangan – Kildare – Newbridge – Dublin) to the existing inter-city bus stop, which serves the Local Link 883 service. To support this option, additional bus stops would be provided along the extended route of the 126 bus, improving the public transport access on the western side of the Main Street for Kildare Town.

- Option 3: Option 3 would also allow the 126 bus route to be extended further into the main town centre. The inter-city services would also be extended to serve an internal transfer point within Kildare Village.

- Option 4: This option would bring the 126 bus closer to the existing pedestrian entrance to Kildare Village. This option would also involve extending the inter-city services to serve an internal bus stop provided within Kildare Village.

The Multi-Criteria Analysis (MCA) conducted shows that overall, Options 2 and 3 provide similar net benefits to Kildare Town with major integration and accessibility benefits provided by providing for local and inter-city bus transfers. Therefore, these 2 options will for the short and medium – long term bus transfer points for Kildare Town.

Public Transport Options

- Option 1 – Bus Gate on Main Street: Option 1 proposes a bus gate along a section of Main Street near market square to provide shorter journey times for the 125 bus and increased reliability.
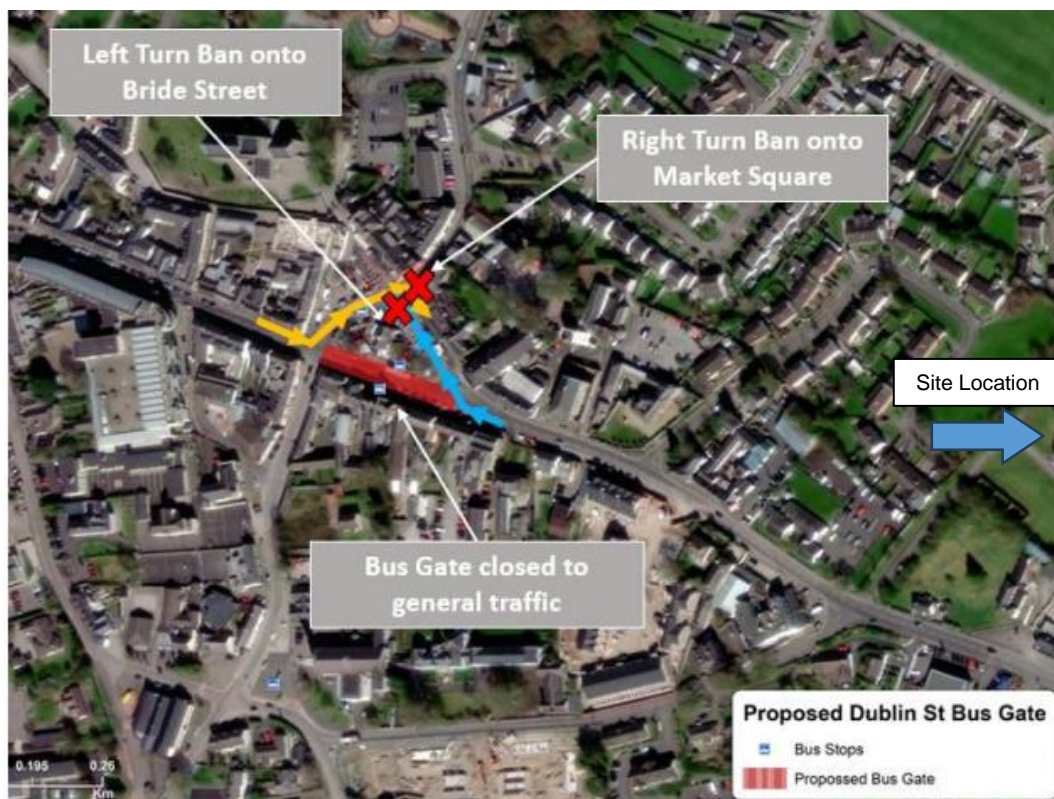
Figure 7 – Location of Potential Bus Transfer Point Options (Extract from Kildare Town Transport Strategy)

- Option 2 – Improve Quality of Bus Stops and Coverage: This option recommends that all bus stops should be formalised in the town have a minimum standard of infrastructure to improved legibility and promote public transport use. This option introduces a minimum standard which ensures that each bus stop consists of safe waiting areas, a clearly identifiable bus stop pole and timetable information. At key locations the existing bus stops should be upgraded to ensure that there is shelter for passengers with lighting and Real Time Passenger Information signs.

- Option 3 – Campaign for More Frequent Bus Services: This option commits to improve the frequency of the 126 bus service, operated by Go-Ahead. The 126 service offers local connections to Newbridge and Naas as well as longer distance trips to Dublin City Centre. It is proposed that the frequencies on the 126 would be increased to make it a more attractive and convenient service for those travelling to Newbridge, Naas, or Dublin City Centre. This option involves increasing the departures on the 126 bus to make it a half hourly service at peak times and an hourly service at off peak times. Increased frequencies would result in half hourly departures from Kildare Town in the morning peak commencing at 6:30 until 10:00. This would result in an increase in service from 5 to 8 departures. In the evening peak period, for the outbound direction from Dublin City Centre to Kildare Town, a half hourly service would commence at 16:00 and run until 20:00 resulting in an increase from 2 departures in the evening peak 9 departures. Greater frequency on the 126 bus will increase the potential for interchange with inter-city Dublin Coach services.

- Option 4 – Relocation of Kildare Town Train Station: As part of the strategy the relocation of the Kildare Town Train Station was considered. However, they discovered in analysis that the new location of the station would result in a slight reduction in personal safety on platforms, given it is a more remote location with less passive surveillance. It is proposed to retain the existing location of the train station the optimal location as it serves a larger catchment and provides better access to key destinations within the town centre.

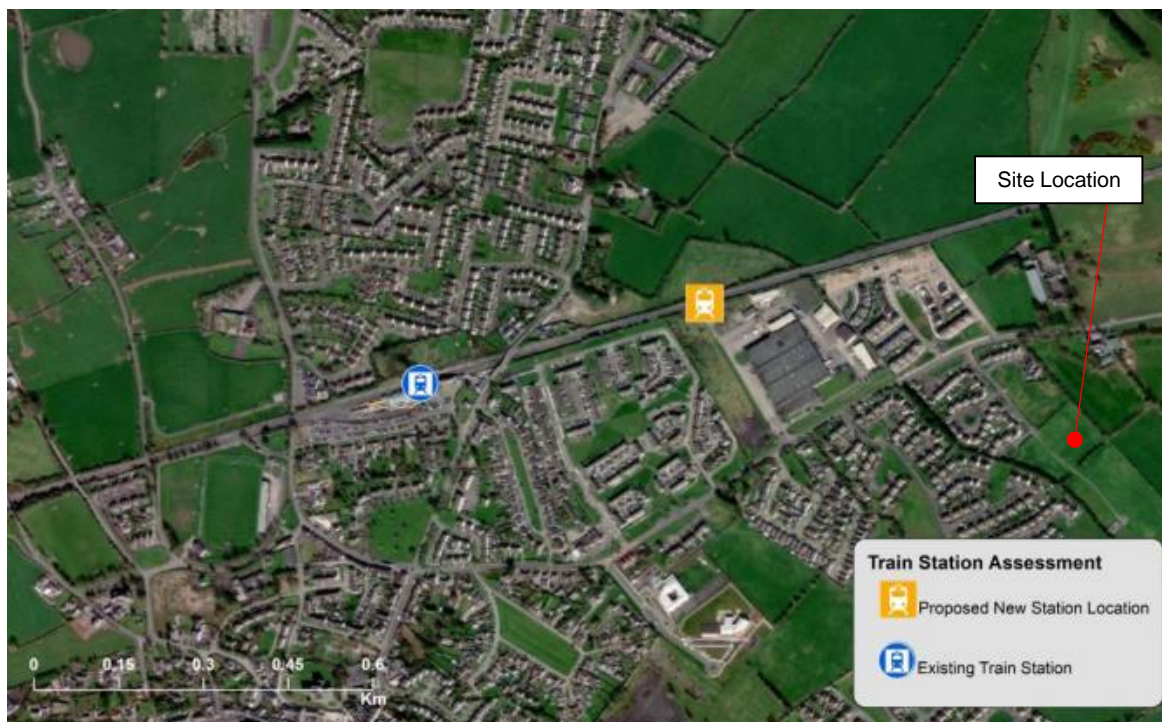*Figure 8 – Proposed New Location for Kildare Town Train Station (Extract from Kildare Town Transport Strategy)*

- Option 5 – Campaign for Northern Entrance to Kildare Town Train Station: It is proposed to provide a northern entrance to the local train station. The current situation limits the walking catchment to the housing estates in the north of the town. The northern entrance would ensure that access to the housing estates to the north is significantly improved and access from future development to the east and west is provided via a proposed greenway. This option is shown in the Figure 9 below.
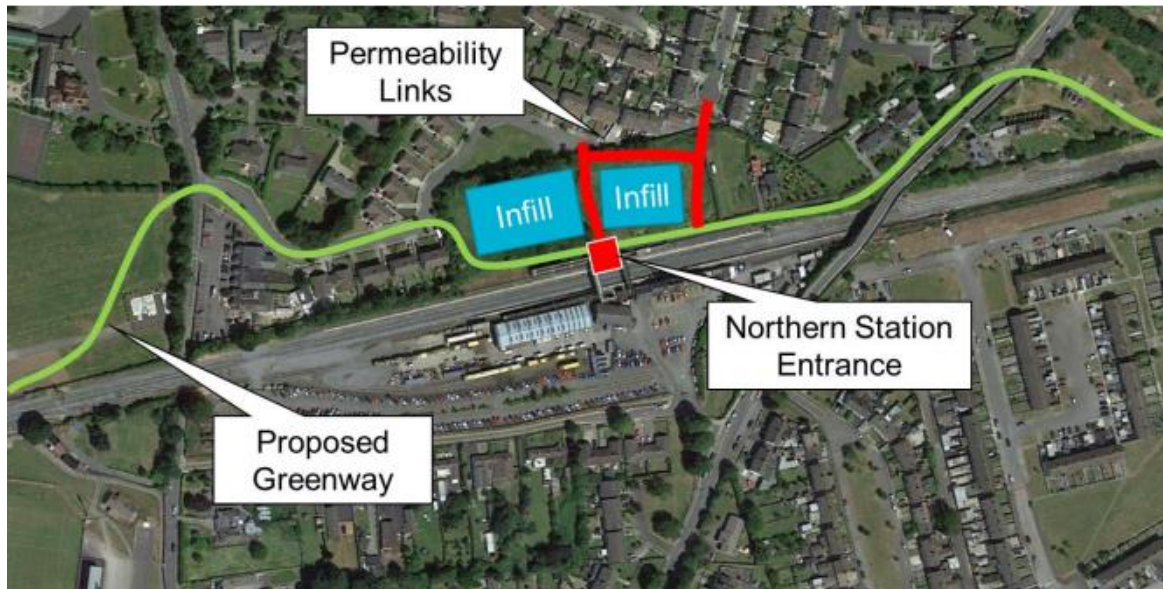
Figure 9 – Northern Train Station Entrance

- Option 6 – Campaign for Train Station Upgrade: This option proposes that KCC campaign for the train station to be upgraded by providing lifts to transfer between platforms, additional shelters, smart card tag on/ off machines and extra cycle parking.

- Option 7 – Campaign for more Frequent Rail Services: This option proposes that KCC should campaign for the frequency of heavy rail commuter services to be increased to ensure a minimum of a 15-minute frequency inbound to Dublin during the 6:30am – 10am morning peak, and outbound from Dublin during the 5pm – 8pm evening peak. At current, the frequency can vary from under 10 minutes to over half an hour. Increased rail frequencies could be achieved through the extension of the Pheonix Pak Tunnel Services to Kildare Town.

The MCA identified option 2, 3 and 5 for inclusion in the strategy as short-term measures and option 6 and 7 have been selected as medium – term.

4 BASELINE REVIEW OF EXISTING TRANSPORT NETWORK

4.1 Overview

This chapter assesses the existing transport network surrounding the site. A detailed commentary is provided on the existing walking, cycling and public transport facilities near the site.

4.2 Existing Pedestrian/ Cyclist Environment

Primary access will be provided into the residential areas to the north, along Connagh Road. There are no cycle lanes or segregated facilities in the immediate vicinity of the development site, so cyclists are required to utilise the main carriageway.

There are many local creches, school, convenience shops and supermarkets, and medical centres within each walking distance to the site. The local amenities and walking catchment are shown in Figure 10 below.

- Kildare Business Centre is within a 15-minute walk. The business centre accommodates the following businesses KDL Retail Interiors, MC Motors, The Hobby Den, Binotto Ireland, DPD Kildare Depot, Media Digital Software and Marketing Agency and Brown Motor Factors and Hire.
- Kildare Town Educate Together National School is within a 20-minute walk.
- Kildare Town Centre and Kildare Town rail station are within a 30-minute walk from the site. Town centre commercial businesses within a 30-minute include Bright Beginnings Creche & Montessori, Round Towers Kildare Town GAA Club and, Kildare Education Support Centre.
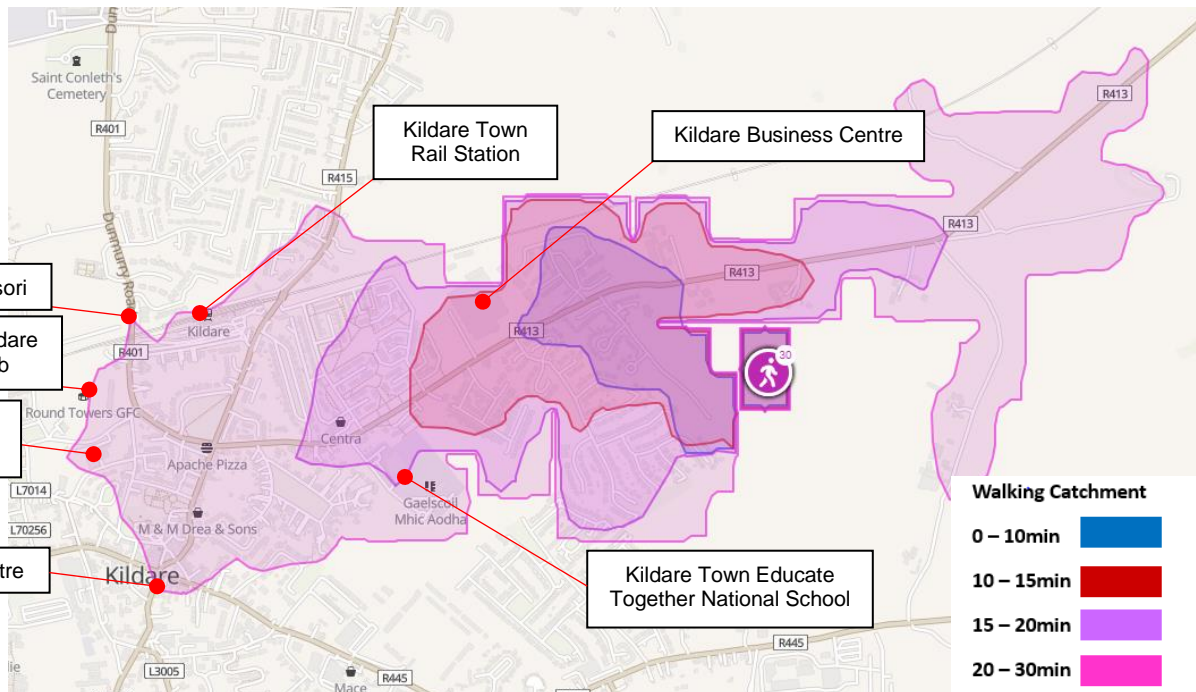
Figure 10 – Walking Catchment

R413 Regional Road includes 2.5m wide footpath on both sides of the road and are separated by a green verge. Yellow double lines are marked along the edge of the road indicating no parking is permitted. Adequate street lighting.

Connagh Road is a residential road along the north-western boundary of the site. Footpaths along the dwellings are separated by a green verge. The road features ramps at interval. There is adequate street lighting. At desirable crossing points, the crossing is paved and flush with the road.

Figure 11 – Existing Road Network

The cycling catchment utilising the current network is indicated in Figure 12 below. Within a short cycle from the proposed site, it is possible to access several key amenities including the town centre, school, employments, and the local train station.
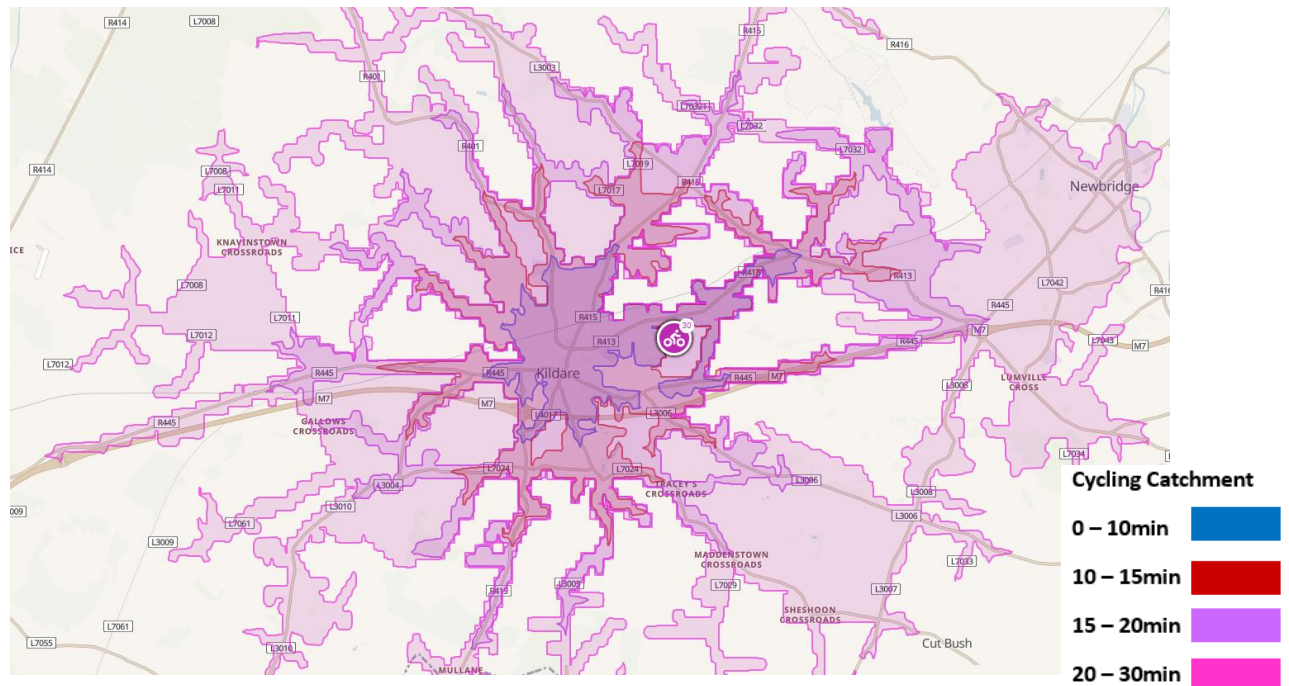
Figure 12 – Cycling Catchment

Proposals within the Kildare Town Transport Strategy includes for significant improvements to the local cycle and pedestrian network which would benefit residents of the proposed development. There are 41 measure which make up the permeability strategy, these are listed and described in Table 2 below. The permeability measures outlined are shown visually in Figure 13 below.

Table 2 – List of Permeability Strategy Measures	
Options	**Description**
1.	Extend existing footpath north along the Rathbride Road (R415) as far as the Cill Dara Golf Club.
2.	Create a pedestrian/ cyclist link from Rathbride Abbey onto Rathbride Demesne.
3.	Install new footpaths across the green area to provide formal connections between Oakland Grove, Dunmurray View and Farrincooley Crescent.
4.	Create a pedestrian/ cyclist link connecting Rathbride Close to Drumcree Court.
5.	Creation of a northwestern Greenway linking from the Monasterevin Road (R445) to the Dunmurray Road (R401) and connecting the Green Road, Southgreen Road and Old Road.
6.	Extend footpaths along southgreen Road north of the Train Line to connecting with the greenway proposed under Option 5.
7.	Creation of pedestrian/ cyclist link connecting Fennor Lawns with North Glebe.
8.	Creation of pedestrian/ cyclist link connecting Drumcree Court with Curragh Finn.
9.	Creation of pedestrian/ cyclist link connecting North Glebe with Curragh Finn.
10.	Extend existing footpath north along Green Road to connection with Greenway proposed under Option 5.

|	
11.	Creation of a new east west Greenway extending along the Rail line connecting with the northwestern greenway proposed under Option 5 at its western most and extending to connect with a new pedestrian footbridge proposed under option 12 connecting with Melitta Road (R413).
12.	Creation of a new pedestrian / cyclist link connecting the proposed east west greenway under option 11 with Melitta Road (R413). This option involves a new pedestrian bridge over the rail line
13.	Creation of a new pedestrian / cyclist links connecting Curragh Finn and Dunmurray Drive to Kildare Town Train Station
14.	New Pedestrian Cycle link connecting Green Road with Southgreen Road and the newly constructed Southgreen Link Road.
15.	Construction of a new pedestrian / cycle bridge over the Train Line Connecting the East West Greenway proposed under Option 11 and Woodside Park.
16.	Creation of pedestrian / cyclist link connecting Woodside Park to Station Road.
17.	Creation of new multi modal access to Kildare Town Train Station on the western end of Fair Green Road.
18.	Phase 1 of Magee Barracks Internal Road Network.
19.	Phase 2 of Magee Barracks Internal Road Network.
20.	Creation of pedestrian/ cyclist link connecting Curragh Plains, Coolaghknock Green and Melitta Park to Phase 2 of the Magee Barracks Internal Road Network.
21.	Pedestrian links delivered as part of Phase 1 of Magee Barracks Redevelopment.
22.	Creation of pedestrian/ cyclist link connecting Phase 1 of Magee Barracks internal roads to Schools.
23.	Creation of pedestrian/ cyclist link connecting Coolaghknock Park, Coolaghknock Close, Coolaghnock Drive and Coolaghknock Gardens together.
24.	Creation of pedestrian / cyclist link connecting Ruanbeg to Coolaghknock Gardens.
25.	Creation of pedestrian / cyclist link connecting Ruanbeg Drive to Phase 2 of Magee Barracks internal roads.
26.	Creation of pedestrian / cyclist link connecting Kildare Village Car Park to Kildare Village Bus Stop on the R415.
27.	Internal Pedestrian Link delivered as part of Phase 3 of Kildare Village.
28.	Creation of pedestrian / cyclist link from Phase 3 of Kildare Village to Academy Street.
29.	Creation of pedestrian / cyclist link from Bride Street to Main Street via newly proposed car park.
30.	Creation of pedestrian / cyclist link connecting Dublin Street to Meadow Road.
31.	Creation of pedestrian / cyclist link connecting Meadow Court to Rathbride Demesne.
32.	Install new footpaths across the green area to provide formal connections between Farrincooley Crescent and Willow Grove.
34.	Install new footpaths along Old Road connecting to the Dunmurray Link Road.
35.	Road scheme with footpaths connecting Hospital Street to Tully Road.
36.	Road scheme with footpaths – Modus Link Road.
37.	Additional links to be assessed in final strategy: Creation of pedestrian/ cyclist link connecting Grey Abbey Road with Tully Road.
38.	Additional links to be assessed in final strategy: Pedestrian links included in Cherry Avenue Park.
39.	Creation of walking/ cycling only link as part of Modulus Link Road development.
40.	Additional links to be assessed in final strategy: Pedestrian cycle bridge over the M7.
41.	Additional links to be assessed in final strategy: Link between Oaktree Road and Cherry Avenue Park.
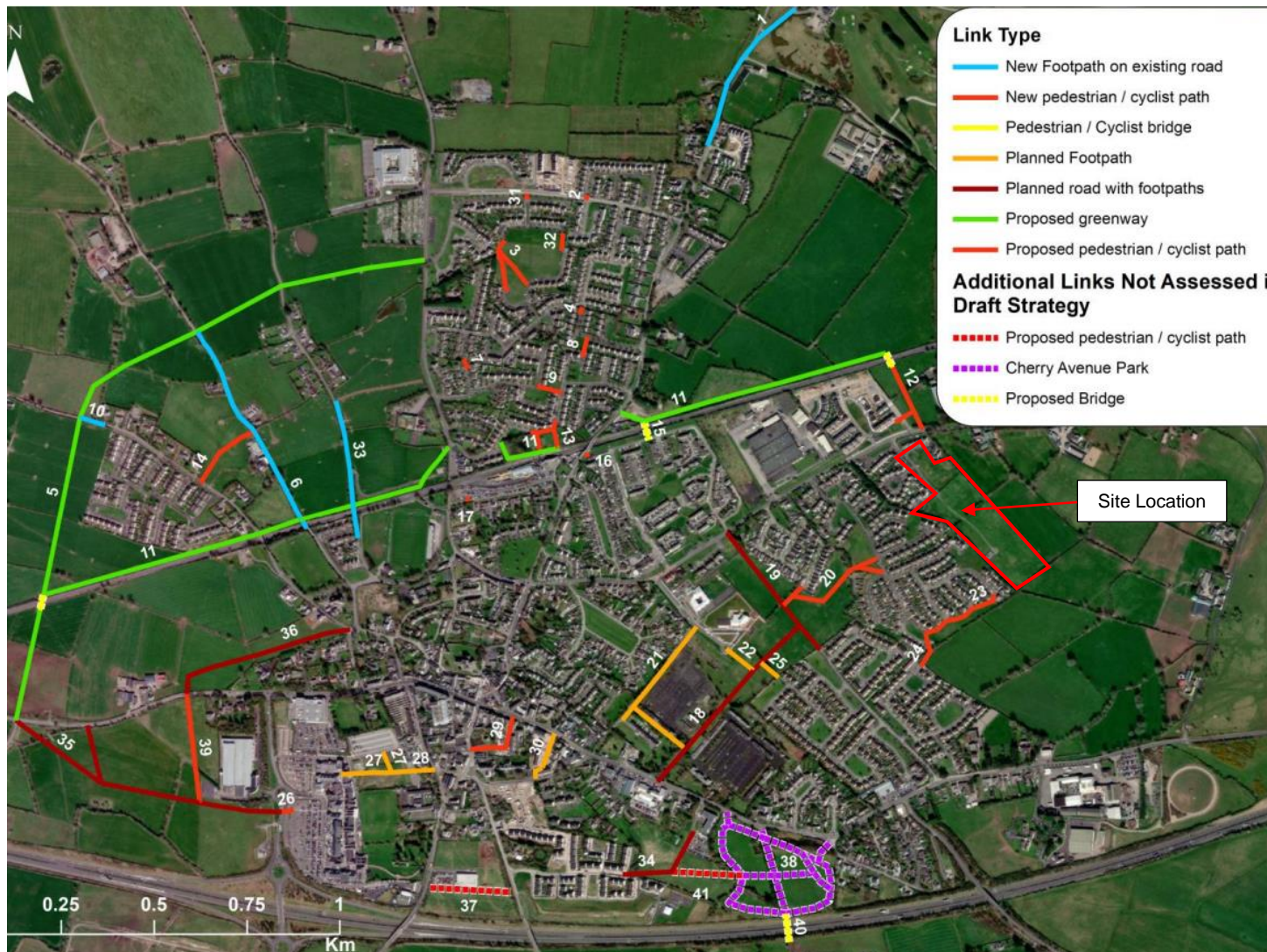
Figure 13 – Kildare Town Permeability Strategy

In combination each proposed link forms a part of a wider walking or cycling route to a key destination i.e., employment, education, retail, or a critical piece of transport infrastructure i.e., bus stop, greenway, train station. A 1km walking distance catchment was conducted to assess the strategies proposed.

- Impact on primary school catchment: 42.1% increase in the number of homes added to the 1km catchment area. 32% reduction in walking distance of buildings within town for primary schools.

- Impact on secondary school catchment: 6.5% increase in the number of homes added to the 1km catchment area. 42% reduction in walking distance of buildings within town for secondary schools.

- Impact on supermarket catchment: 42% increase in the number of homes added to the 1km walking catchment area. 38% reduction in walking distance of buildings within town for supermarket trips.

- Impact on bus stop catchment: 12.7% increase in the number of homes added to the 1km walking catchment area. 29% reduction in walking distance of buildings within town to the nearest bus stop.

- Impact on rail catchment: 20.2% increase in the number of homes added to the 1km catchment area. 40% reduction in walking distance of buildings within town to the train station.

4.3 Public Transport Infrastructure

4.3.1 Public Bus

There are two bus stops in each direction located along the R415, an 18-minute walk or a 5-minute cycle from the site. One of the stops is located at Kildare Town Train Station. The stop is served by the Transport for Ireland bus 883. There are three bus stops in each direction along the R445, a 27-minute walk or 8-minute cycle from the site. The stops are served by the Transport for Ireland 126, 726 and 883 buses.

As graphically illustrated in Figure 14 below, the site is situated to benefit from transport connection with Table 3 detailing the number of services per day.
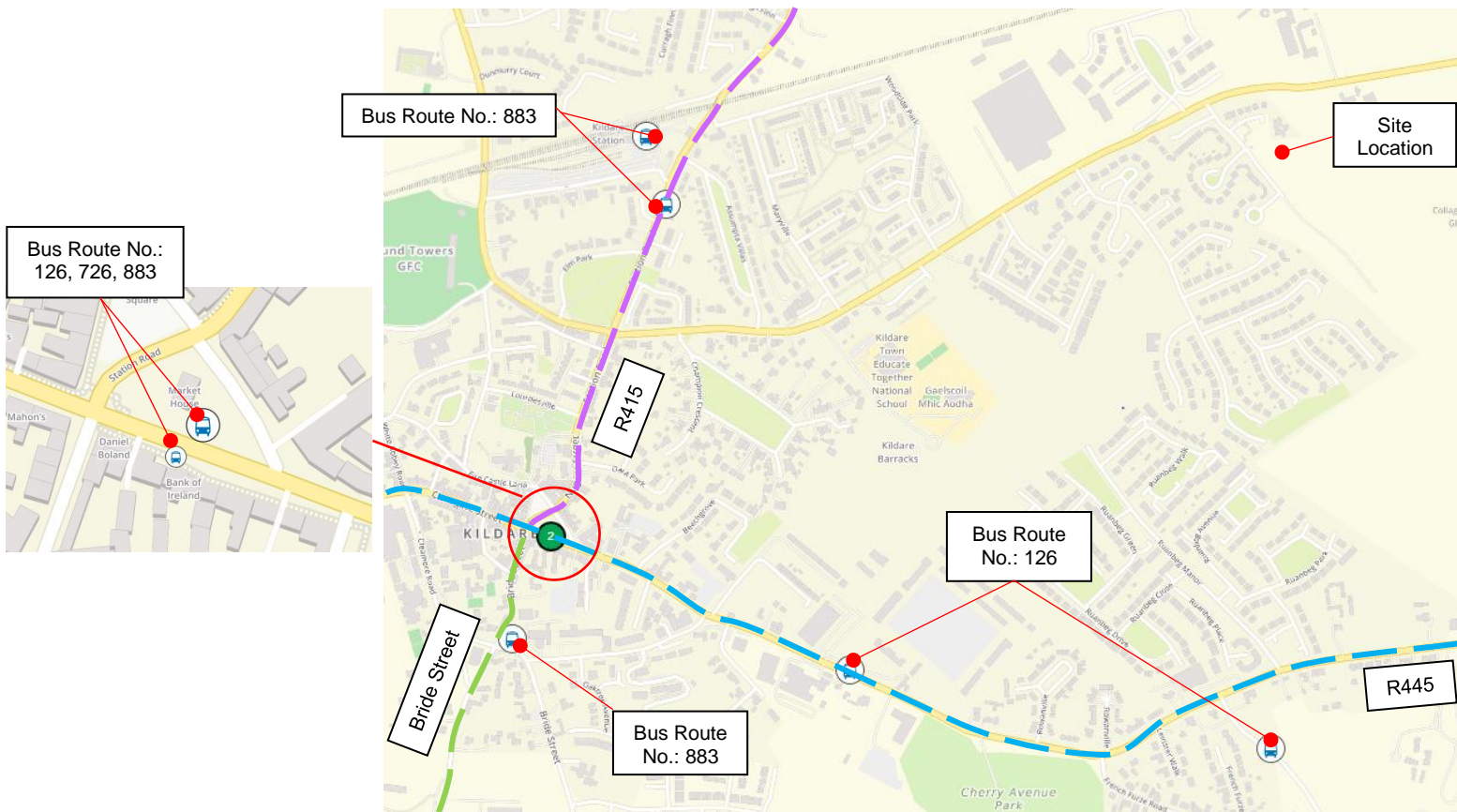

Figure 14 – Bus Stops in the Vicinity of the Site
(Source: www.journeyplanner.transportforireland.ie)

Table 3 – Bus Timetable					
Operator	Route No.	Route	No. of services		
			Monday to Saturday	Thursday to Saturday	Sunday
Transport for Ireland	883	Athy – Kildare Village – Newbridge	Starts 7:40 – 10:30 – 14:00 – 16:45	19:00 – 21:45	No departures
	126	Rathangan – Kildare – Newbridge	Monday to Friday	Saturday	Sunday
			Starts 9:01 – 14:08 – 17:53 – 19:08 – 19:51 – 21:57 – 00:36	No departures	No departures
Operator	Route No.	Route	No. of services		
			Daily		
Dublin Coach	726	Portlaoise – Monasterevin – Kildare – Newbridge – Naas – Red Cow Luas – Dublin Airport	24-hour service From 1:00 – 7:00 services every hour From 7:00 – 17:00 services every half hour From 17:00 – 00 service every hour		

4.3.2 Train Service

Kildare Town Train Station is located approximately 1.50km from the site, a 19-minute walk or 6-minute cycle. There are regular service as follows :

- Dublin Heuston/ Cork service.
- Dublin Heuston/ Galway service.
- Dublin Heuston/ Limerick and Ennis.
- Dublin Heuston/ Limerick via Nenagh.
- Dublin Heuston/ Tralee.
- Dublin Heuston/ Waterford.
- Dublin Heuston/ Westport and Ballina.
- Galway/ Limerick.
- Grand Canal Dock and Dublin Heuston/ Portlaoise.

Figure 15 – Site Location Relative to National Rail Network (Source: www.irishrail.ie)

4.4   Other

On-site car parking is considered to be an inefficient use of space, particularly at a constrained location in a highly developed urban area such as the development site. Taking this into consideration, the provision of car club spaces is considered a more sustainable option which both reduces the need for car ownership and provision of dedicated car parking while also maintaining access to a vehicle for infrequent use. There is 1 GoCar hire station located within a 2.50km walk from the site, approximately a 30-minute walk or 10-minute cycle. The location of the GoCar station is illustrated in Figure 16 with Table 3 providing additional details in relation to walking distance from the site and the type of GoCar vehicle available. The benefits of such car sharing services include:

- The reduction of cars on the road and therefore traffic congestion, noise, and air pollution.

- Frees up land traditionally used for private parking spaces.
- Encourages and potentially increases use of public transport, walking and cycling as the need for car ownership is reduced.
- Car share replaces approximately 20 private car parking spaces.

Figure 16 – GoBase locations in the Vicinity of the site (Source: www.gocar.ie/locations/)

Table 3 – GoBase Details			
Reference No.	GoBase Locations	Vehicle Class/ Cars Available	Approximate Distance from the Development
1	Tesco Kildare	GoCargo GoVan	2.50km to the southwest

5   TRAFFIC IMPACT

5.1 Construction Traffic Impact

Relative to the operational stage, the construction period will be temporary in nature. Construction traffic is only expected to consist of materials delivery and removal vehicles.

It is difficult to assess the exact quantum of traffic that will be generated during the construction period as it will vary throughout the construction process as different activities have different associated transportation needs. However, due to the nature of this development it can be assumed that there will be approximately 100 construction site staff at peak time, and it is expected that the site would generate approximately 40 vehicles during the morning and evening peak hours.

The number of HGVs generated during the construction phase will be evenly spread out throughout the day and in general will not coincide with peak commuter periods.

The following points are noted regarding construction traffic:

- In general, the construction day will begin and end outside of peak travel hours. As a results, most workers travelling to and from the site will arrive before the a.m. peak hour and depart after the p.m. peak hour.
- On site parking will be prohibited due to site constraints and to encourage staff to travel by numerous public options serving the area.
- Material delivery vehicles travelling to and from the site will be spread across the course of the working day meaning the number of HGVs travelling during the peak hours will be relatively low.

Construction traffic associated with the construction of the proposed development will vary during the construction phase. The proposed sequencing of the construction of the proposed development is as follows:

- Initial set-up of the site, including security and construction compound.
- Identifying and locating above and below ground utilities and services at the site.
- Development of the proposed substructure and superstructure. This will include deliveries of machinery, steel rebar, brick, concrete, roofing materials, and prefabricated element deliveries on HGVs.
- Internal finishing, including the mechanical and electrical fit out; and
- External landscaping.

Overall, it is expected that the level of traffic generated by the construction works will be negligible during the peak traffic hours, and as a result, it is expected to have negligible impact on the surrounding road network with respect to capacity.

5.2 Operational Stage

5.2.1 Car Parking

Current proposed for car parking are guided by and fulfil the requirement of the Kildare County Council Parking Standard as described in the development plan 2023 – 2029. Car parking standards are set out in Chapter 15, Table 15.8 of the development and are summarised as follows:

- For Dwelling House – 1 space each for units up to and including 3 bed units and 1 space + 0.50 visitor spaces for units of 4 bedrooms or greater.
- For Apartments – 1.50 space per unit + 1 visitor space per 4 apartments

Section 15.7.8 of the Development Plan states as follows:

"Parking standards are maximum standards. Residential development in areas within walking distances of town centres (800 metres i.e., a 10-minute walk) and high-capacity public transport services (including but not limited to Dart+ services, Bus Connects routes and any designated bus only or bus priority route) should be designed to provide for fewer parking spaces, having regard to the need to balance demand for parking against the need to promote more sustainable forms of transport, to limit traffic congestion and to protect the quality of the public realm from the physical impact of parking. Therefore, the number of spaces provided should not exceed the maximum provision set out below.

The parking requirements are summarised in Table 4 below.

Table 4 – Car Parking				
Unit Type	**No. of Units**	**KCC Development Plan Maximum Permitted Number of Spaces**		**Proposed Number of Spaces**
		Residents	Visitors	
House-2-bed	36	36	0	
House-3-bed	45	45	0	
House-4-bed	8	8	4	**161**
Apartment	42	63	11	
Total	**131**	**152**	**15**	
		167		

It is proposed to provide 161 no. spaces within the residential development which is less than the maximum permitted by the Development Plan. It is proposed to allow for a creche on the site and 11 spaces have been provided with an additional 2no. part M spaces.

5.2.2 Bicycle Parking

The quantity of long stay cycle parking is provided on curtilage for all of the housing units with visitor parking also being accommodated. The apartments with a ground floor entrance have on curtilage parking provided which again will accommodate visitor parking. The upper floor apartments will have a secured indoor bike room accessible by residents only. In addition to the long stay residents parking there will be on-street visitor parking

provided at locations throughout the development. For the creche 2no. parking spaces are provided for staff and 6no. for visitors.

5.2.3 Traffic Impact

Trip Generation
A review of trip generation factors contained within the TRICS database was carried out. TRICS data is primarily UK based, although a number of Irish sites have recently been included and the number of Irish sites continues to expand. Nevertheless, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

Notwithstanding the above, internal research undertaken by TRICS has shown that there is no direct evidence of trip rate variation by country or region. The use of English, Scottish or Welsh data can be equally applicable to Ireland if users take into account important site selection filtering factors such as levels of population, location type, local public transport provision, and development size and car ownership level, amongst others.

Data supplied for inclusion in TRICS undergoes a procedure of validation testing, and there is no evidence from this procedure suggesting that data from Ireland bears any significant fundamental differences to that from the other countries included. Consequently, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

Table 5 - Proposed Residential Development Trip Rates					
Land Use	Unit	AM Peak Hour (07:30-08:30)		PM Peak Hour (17:15-18:15)	
		Arrival	Departures	Arrivals	Departures
Houses	Per unit	0.120	0.348	0.415	0.274
Apartments	Per unit	0.062	0.143	0.219	0.130

Table 5 summarises the TRICS generated trip rates for site, whilst Table 6 summarises total number of anticipated trips for the development during the weekday morning and evening peak hour periods.

Table 6 - Total Number of Estimated Trips for the Development					
Land Use	Unit	AM Peak Hour (07:30-08:30)		PM Peak Hour (17:15-18:15)	
		Arrivals	Departures	Arrivals	Departures
Houses	Total Trips	11	31	37	24
Apartments	Total Trips	3	6	9	6
Total		**14**	**37**	**46**	**30**

The above-estimated number of trips for the proposed development is considered conservative given the low level of car parking proposed which will considerably reduce car-based trips to and from the development, particularly during peak hours.

Table 2.1 in the TII Traffic and Transport Assessment Guidelines, 2014 sets a number of thresholds, above which a Traffic Impact Assessment must be completed.

Table 7 – Traffic Management Guidelines Thresholds for Transport Assessments
Residential development of more than 200 dwellings.
Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.
Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive.

Table 2.3 in the TII Traffic and Transport Assessment Guidelines, 2014 sets out a series of further threshold which include:

Table 8 – Traffic Management Guidelines Thresholds for Transport Assessments	
Vehicle Movements	The character and total number of trips in/ out combined per day are such that as to cause concern.
Location	The site is not consistent with the National Guidance or Local Plan Policy, or accessibility criteria combined in the Development Plan
Other Considerations	The development is part of the incremental development that will have significant transport implications.
	The development may generate traffic at peak times in a heavily trafficked/ congested area or near a junction with a main traffic route.
	The development may generate traffic, particularly heavy vehicles in a residential area.
	There are concerns over the developments potentials effects on road safety.
	The development is in a tourist area with potential to cause congestion.
	The planning authority considers that the proposal will result in a material change in trips patterns or raises other significant transport implications.

The development will provide 131 dwelling units and, with just 51 vehicle movements in the AM peak hour and 76 vehicle movements in the PM peak hour, the impact of the development on the surrounding road network is expected to be negligible.

6   PRE – OCCUPATION BASELINE MODE SHARE

6.1 Purpose of the Baseline

This section provides information on the travel behaviour of the existing population of the locality and similar development types. This is necessary to predict the travel patterns of future residents at the development sites and identifying existing constraints which may impact upon the sustainability of future development.

The subject site is located within a suburban area with predominantly residential land uses though there are other land uses nearby within walking distances such as employment, commercial, schools and leisure.

6.2 Mode Share

The Kildare County Development Plan (KCDP) illustrates modal share for the county based on Census 2016 using Powscar data. According to the census the commuting patterns for employment and educational purposes rely heavily on motorised private transport. Active travel and public transport accounts for a very small proportion of journeys to work as can be seen in Figure 17 below.
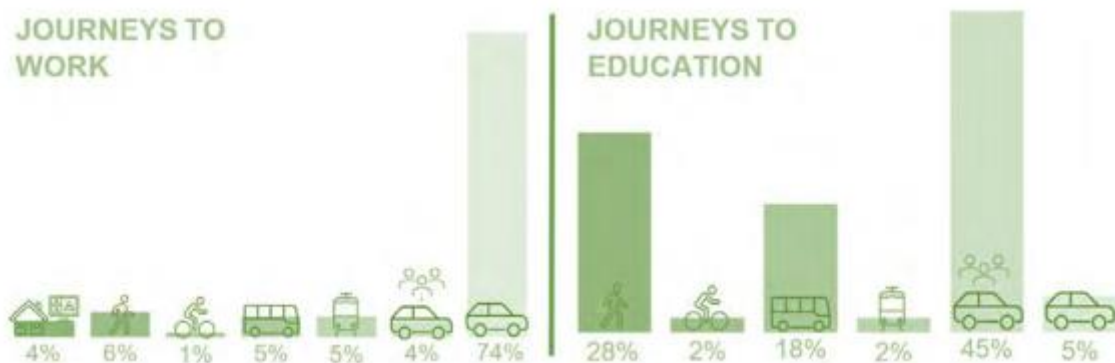

Figure 17 County Kildare Mode Share (Source: Kildare County Development Plan figure 5.4 chapter 5)

The aim is to achieve a significant modal shift for Kildare County and the recent Government approval of the Dart+West project to enter into the planning system is a crucial milestone for the county. This project aims to transform the rail network and provide a reliable alternative to the private car. Bus Connects have also increased the public bus network in the county with further upgrades in the pipeline. KCC are also providing cycling infrastructure to assist the modal shift into the active travel mode.

The aim within the lifetime of the KCDP is to reduce private car travel from 74% to 50% for journeys to work and 50% to 40% for journeys to education. The targets aim to increase walking from 6% to 20% for journeys to work and 28% to 50% for journeys to education. The targets aim to increase walking from 6% to 20% for journeys to work and 28% to 50% for journeys to education. The targets aim to increase travel by cycling from 1% to 10% for journeys to work and 2% to 15% for journeys to education. The targets aim to increase

travel by public transport modes such as bus and train from 10% to 27% for journeys to work and 20% to 25% for journeys to education; refer to Figure 18.
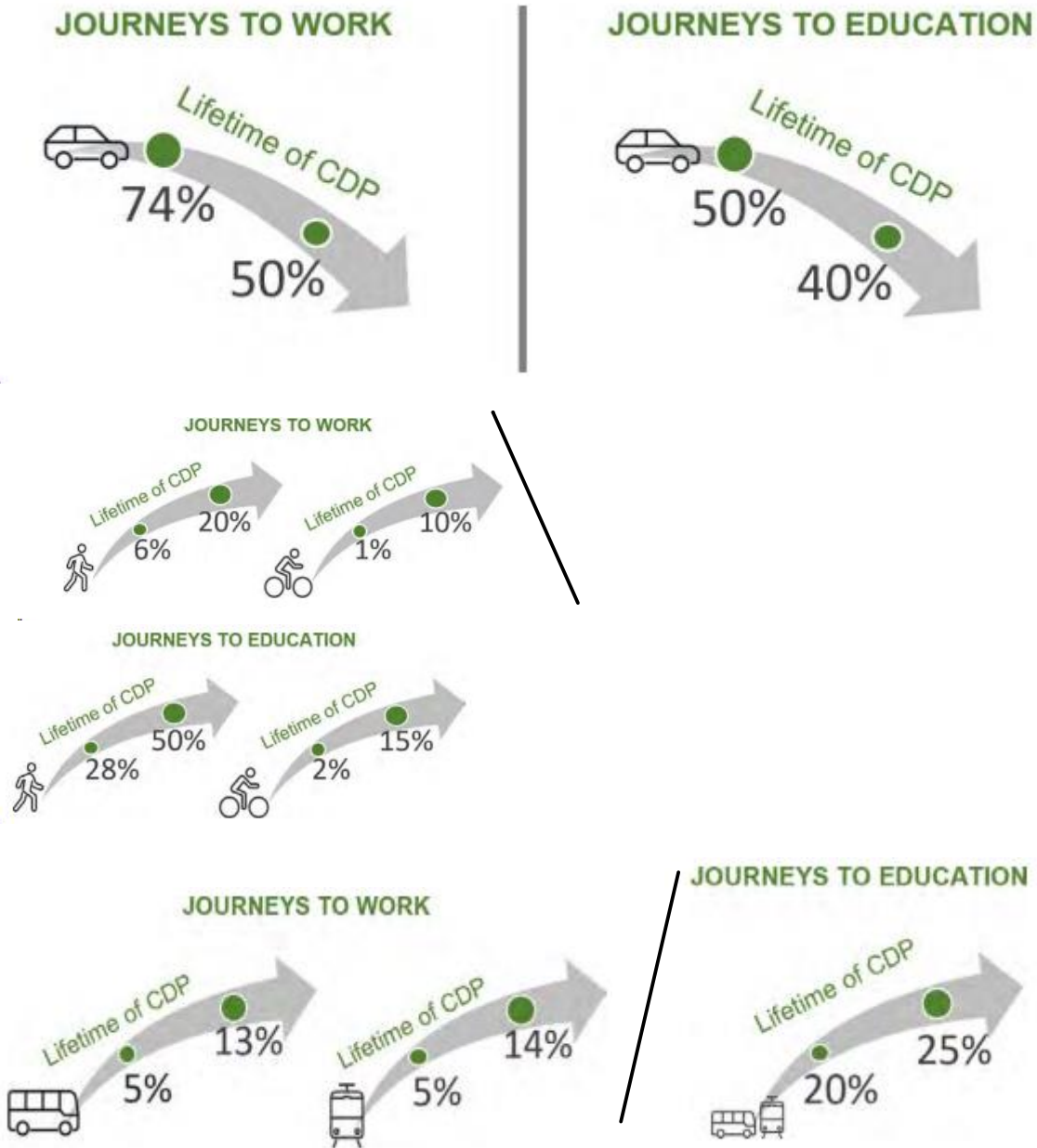

Figure 18 County Kildare Mode Share Shift Targets (Source: Kildare County Development Plan chapter 5)

Thus, the positive trend towards public transport usage for travel into Dublin City Centre and the expansion of public transport modes will benefit the residential development in Kildare town by reducing dependency on private car travel.

7 AIMS AND OBJECTIVES OF THE TMMP

7.1 Overview

To measure the ongoing success of the TMMP and its various measures, it is important that a series of targets and objectives are set at the outset.

As this is pre-occupation residential TMMP, it is expected that the final targets of the TMMP will be taken forward upon site occupation. As such, the pre-occupation baseline targets should be at this time considered as guidance until post- occupation baseline residential surveys are undertaken.

7.2 Aims and Objectives

The overall aim of the TMMP for the proposed development is to minimise the proportion of single occupancy vehicle trips and address the forecast transport impacts of the end-users of the site. The objectives can be summarised as follows:

- Consider the needs of residents in relation accessing facilities for employment, education, health, leisure, recreation and shopping purposes, including identifying local amenities available that reduce the need to travel longer distances.
- Reduce the vehicular traffic generated by the development – including developing measures to reduce the need to travel, such as the provision of ancillary facilities (gym, food/ beverage facilities, business area co – working spaces, convenience retail and parcel delivery/ collection services).
- Develop good urban design by ensuring permeability of the development to neighbouring areas and provisions of cycle facilities.

7.3 Targets

Targets are the specific quantitative goals based on the objectives described above. Targets are important as they give the TMMP direction from its inception, providing measurable goals.

Since the overall aim of the TMMP is to reduce reliance upon the private car, it is appropriate to set a target which relates to this objective. The primary outcome indicator used will be mode share of the resident of the proposed development.

It will therefore be necessary to collect data to identify and understand the post-occupation baseline and ongoing travel habits, against which the TMMPs progress can be measured. It is recommended that resident's travel surveys will establish the post-occupation baseline travel data for the Coolaghknock site and inform the final TMMPs targets.

8   MOBILITY MANAGEMENT MEASURES

8.1 Proposed TMMP Action Plan Measures

TMMPs have a wide range of possible "hard" and "soft" measures from which to choose from with the objective of influencing travel choices. The following section introduces proposed TMMP measures that can be implemented once the site is occupied. The finalised measures within the TMMP will be informed by the insight gained by the Post-Occupation Baseline Travel Survey results.

The proposed residential TMMP Action Plan is summarised into the following sections:

- Mobility Manager (MM).
- Reducing the need to travel.
- Welcome Travel Pack.
- Marketing and Travel Information.
- Personalised Travel Planning.
- Walking.
- Cycling.
- Public Transport.
- Managing Car Use.

8.2 Mobility Manager

A Mobility Manager will be appointed, and their role will be to manage the implementation of the Residential TMMP for the Coolaghknock site. The role involves being the main point of contact for travel information, promotion, and improvements. This may also be organised in the form of a residents' group once the development is fully occupied and operational. The remit of the Mobility Manager includes the following:

- To develop and oversee the implementation of the initiatives outlines in the TMMP Action Plan below.
- To monitor the progress of the plan, including carrying out annual Residential Travel Surveys.
- To actively market and promote the social, economic, and environmental benefits of sustainable travel to residents.
- To provide sustainable travel information, support, and advice to residents including available bus service timetables, walking, and cycling maps, car-sharing, cycle hire services, local cycling and walking schemes and events.

8.3 Reducing the need to travel

The provision of on-site services or within reasonable walking distance to reduce the need of residents to utilise a vehicle to travel will be crucial to embedding a sustainable travel culture within the site from the outset.

8.4 Welcome Travel Pack

A 'Welcome Travel Pack' can be provided to all new residents with the intention that each resident is made fully aware of the travel choices available to them. This will also give the best possible opportunity to the new residents to consider more sustainable modes of travel.

The Welcome Travel Pack will include a variety of sustainable travel information and incentives about the development and the wider local area. It can include measures such as:

- Provision of information on services and amenities provided locally (both on-site and nearby), particularly those within walking and cycling distance.
- Maps showing the pedestrian and cycle routes in proximity to the site, including site cycle parking and cycle hire locations; advised routes (with journey times) into the city centre and to public transport interchanges (e.g., Heuston Station).
- Provision of information about local public transport services and tickets including a plan showing the location of bus stops and bus routes, train stations.
- Provision of information on the health benefits of walking and cycling.
- Provision of details of online car-sharing services along with the benefits of car sharing, such as reduced congestion, better air quality, reduction in traffic noise and cost savings to the individuals taking part.
- Provision of information on the financial and environmental costs associated with driving and support regarding tips for green driving techniques.

8.5 Marketing and Travel Information

Marketing and raising awareness will involve directly engaging with individuals and raising awareness of travel options as well the benefits of sustainable and active travel.

The Mobility Manager can market and promote the TMMP to residents of the development in the following ways:

- Production and distribution of the Welcome Travel Pack as described above.
- Production of dedicated printed Travel Options Leaflets (in addition to the Welcome Travel Pack) and online information which can be personalised to suit the individual needs of the site.
- Once travel surveys have been undertaken, additional leaflets can be provided which are tailored to encourage travel by a specific mode of transport.
- Organising events and activities to coincide with Bike Week, European Mobility Week and any other national/ local sustainable travel or community events.
- Displaying regular updates on TMMP targets and activities in communal areas of the residential development.
- Promotion of sustainable travel options to residents, focusing marketing initiatives on an area where there is willingness to change and promoting positive messages e.g., reducing congestion and CO_2 emissions, getting fit and active.

8.6 Walking

Walking is the most sustainable and accessible mode of travel. Any individual in fair health can incorporate walking into part of their journey. Furthermore, 30 minutes of moderate activity 5 or more times per week is likely to enhance the health and fitness of the individual. To encourage walking, a number of measures will be considered:

- Promotion of National Walking Month.
- Provision of maps of local walking routes to key destinations in the vicinity of the site.
- Making information on local pedestrian routes and facilities available.
- Raising awareness of the health benefits of walking.

8.7 Cycling

To encourage residents to cycle, the following measures will be implemented or considered:

- Provision of adequate, secure bicycle parking at convenient locations within the development.
- Posting of information on the local cycle network routes on communal notice boards and social media.
- Provision of information on the Bike to Work scheme.
- Provision of vouchers local bike shops to all residents.
- Promotion of Bike Week events in the Kildare town area.
- Promotion of cycle security and bike marking schemes to reduce bike theft.
- Promotion of cycle safety.
- Setting up of a Bicycle User Group (BUG.

8.8 Public Transport

The following measures will be considered to encourage residents and visitors to travel by public transport:

- Provision of up to date bus details including timetables/ contact information in the welcome packs.
- Provision of wayfinding information to access key transport modes.
- Liaison with local bus companies regarding future improvements and/ or extension to local services.

Cost awareness can be a contributing factor in the decision to travel by car or public transport. Residents can be made aware of the savings that can be made by purchasing season and other discounted ticket types.

8.9 Managing Car Use

To encourage lower levels of car use and private car ownership i.e. promote a car free lifestyle, the following measures can be considered:

- Designation of a section of car parking within the car parking area for priority use for those that car share and/ or low emission vehicles.
- Provision of details for the proposed car club and current car club operators within the vicinity of the site.

9   MONITORING AND REVIEW

9.1 Monitoring and Review

The monitoring of travel behaviour is vital to measure progress towards targets. Monitoring may be undertaken by the resident's association after occupation. Thus, the Mobility Manager (MM) will be a volunteer representative of the committee. The local Authority could also assist in this regard.

The MM will consult with the occupiers to promote the concept of the TMMP, as well as identifying objectives for encouraging active travel.

Monitoring surveys will be conducted at intervals following occupations of the development. The MM will organise surveys aimed at obtaining updated information on the travel patterns of the residents. The TMMP will be updated on the receipt of survey results.

The MM will be responsible for monitoring on-site and off-site facilities for sustainable modes. It will be the duty of the MMC to report any significant issued observed or any useful comments received from residents on either on-site or off-site facilities.

9.2 Data Collection Analysis

As the development, has not yet be constructed, it is not possible to undertake any travels surveys.

To understand travel habits, travel surveys will be distributed to all residents after occupation. Recipients will be encouraged to participate, and the surveys would extract the following key information:

- Place of work/study.
- Usual mode of travel and reason for modal choice.
- Attractiveness of various sustainable modes.
- Any barriers of sustainable modes.
- Initiatives that would encourage residents to travel more sustainably.

The information obtained will be used to undertake travel performance indicator and modal split analysis.