

Draft Carlow
CYCLE
Network



1. Introduction

AECOM, as part of the NTA Cycle Design Office, have been requested by the NTA to develop comprehensive cycle plans for counties outside the Greater Dublin Area (GDA), including Carlow County Council. CycleConnects is intended to form a comprehensive cycle network for all cycle user types across each county in Ireland and to develop on from the cycle network proposed for the counties in the Greater Dublin Area (GDA).

This will include existing cycle networks such as urban cycle routes, greenways and interurban routes. This will be supplemented by proposed cycle routes/links outlined in latest development and transport plans, and other networks required to maximise the connection of the network to communities. It should be noted that this CycleConnects plan does not specify any infrastructure types on any route and is focused on highlighting the key links required to form a comprehensive cycle network connecting all major communities and destinations.

This note will briefly summarise the proposed cycle network for Carlow. For details of methodology, national policy and the overall aspirations for the CycleConnects networks, please refer to the main report of which this technical note is an appendix of.

2. Carlow Population and Settlements

County Carlow is located in the southeast in the province of Leinster and is bordered by Kildare, Laois, Kilkenny, Wicklow and Waterford.

According to the CSO Census 2016, the county has a population of almost 57,000 inhabitants. Table 2.1 below shows the shows the population of towns within Carlow. Carlow Town is the only settlement with over 5,000 people, with all other towns having a population of less than 5,000.

Table 2.1: Population Settlements in Carlow

City/Town	Population (2016)
Carlow Town	24,272
Tullow	3,972
Muinebheag	2,837
Bunclody-Carrickduff	1,984
Graiguenamanagh-Tinnahinch	1,475
Rathvilly	944
Leighlinbridge	914
Ballon	712
Borris	652

3. Existing Carlow Policies and Plans

Carlow County Development Plan 2022-2028

The Carlow County Development Plan was developed by Carlow County Council to span the years from 2022 to 2028. The plan was developed with the vision of Carlow as the principal focus within the region, with the potential to generate and be the focus of significant employment and housing growth.

The strategic vision of the Plan is as follows;

“The Vision for County Carlow is to champion quality of life through local employment provision, high quality development, healthy placemaking and transformational regeneration, to grow and attract a diverse innovative economy, to support the transition to a low carbon climate resilient environment, to embrace inclusiveness and enhance our natural and built environment for future generations..”

This vision has a number of key ambitions for nature and all places to realise their full potential and these include to:

- Protect and enhance the environment;
- Work to achieve economic prosperity and improve quality of life for all;
- Accommodate expanded growth and development in suitable locations; and,
- Promote the region’s international reputation as one of Europe’s most creative, innovative and greenest liveable regions.

Throughout the Plan, there are a number of policies that make note of the facilitation and provision of cycle infrastructure and greenways, which have been listed under the following headings:

Sustainable Travel and Transportation

The proportion of persons walking and cycling to work, school and college declined between 2011 (17.5%) and 2016 (16.1%), with only 2% of trips are made by bike within County Carlow significantly below the national target of 10% commuting by bike by 2020.

The Council recognises the importance of both walking and cycling in minimising environmental impacts while also contributing to improved wellbeing and quality of life. Investment in cycling has taken place in Carlow in recent years, with the provision of cycling lanes along the N80 bypass in Carlow Town and some of the regional roads. Increasing the proportionate uptake of these sustainable modes of travel is dependent on the convenience of walking or cycling as an option which directly relates to the level of connectivity, road safety and the quality of facilities provided.

The following sustainable travel and transport policies and objectives as set out in the plan relate to the provision of cycling and infrastructure development.

- **MS.P1:** Seek investment in sustainable transport solutions, improved walking and cycling connectivity routes, the provision of a public bus service in Carlow Town and the expansion of rural transport initiatives throughout the county.
- **WC.P1:** Prioritise and promote more sustainable and convenient modes of travel by the development of high quality walking and cycling infrastructure including greenways within a safe environment.
- **WC.P2:** Work with the National Trails Office, Coillte, relevant Government Departments, and other relevant stakeholders, to improve on the existing level of infrastructure and facilities for walking and cycling.

- **WC.P3:** Ensure that connectivity for pedestrians and cyclists is maximised in new communities and improved within existing areas particularly towns and villages throughout the county including associated infrastructure, to maximise access to local shops, educational facilities, public transport services, employment locations and other amenities.
- **WC.P4:** Provide for safer routes to schools within the County and promote walking and cycling as suitable modes of transport as part of the Green Schools Programme and other local traffic management improvements.
- **WC.01:** Seek the implementation of the Walking and Cycling Strategy for Carlow Town and specific projects as contained in Project Carlow 2040 “A Vision for Regeneration” creating more sustainable communities, with an emphasis on encouraging active travel to reduce car dependency.
- **WC.02:** Ensure that all streets and street networks seek to facilitate permeability, are designed in accordance with best practice standards including the Design Manual for Urban Roads and Streets and the National Cycle Manual which seek to prioritise the movement of pedestrians and cyclists within a safe and comfortable environment for a wide range of ages, abilities and journey types.
- **WC.03:** Seek to reduce walking and cycling distances to areas of employment, community services, schools, shops, public transport and other community facilities through implementation of the 10 Minute Town Concept, the provision and maintenance of high-quality linkages and the delivery of local permeability links within existing communities.
- **WC.04:** Prioritise where required the upgrade and maintenance of footpaths, cycleways, public lighting, traffic management and public realm works and supporting signage on public roads / paths.
- **WC.05:** Provide secure high-quality cycle parking facilities in public areas and strategic sites in towns and at public service destinations.
- **WC.06:** Improve pedestrian and cycle connectivity to rail station locations and other public transport interchanges within the county.
- **WC.07:** Secure the development of the following specific schemes:
 - Provide a pedestrian and cyclist footbridge to connect IT Carlow with the River Barrow Way, to improve recreational amenity opportunities and sustainable transport choices;
 - Improved permeability and accessibility to the residential areas of John Sweeney Park, The Laurels, Burrin Manor, Willow Park and the wider Carlow town environs / road network. The optimum solution(s) will be informed by relevant engineering and environmental studies, engagement with key stakeholders and will inform the statutory land use plan for the area;
 - Completion of the River Burren walk/cycle path in Ballinacarrig;
 - Cycling infrastructure in the vicinity of Carlow IT; and,
 - Improved accessibility to Carlow Rail Station.

Carlow Town Area Based Transport Assessment (ABTA)

An ABTA is currently being undertaken for Carlow Town. This will include a cycle network plan as part of its assessment. The AECOM project team has already been in discussions with the team undertaking the ABTA to make sure both plans align.

Local Area Plans

Tullow Local Area Plan 2017-2023

The Tullow Local Area Plan aims to improve the quality of life of the community and provide for the future sustainable growth of the town over the period of 7 years and beyond. It outlines the key objective of providing for “sustainable development that will enhance the vitality and prosperity of the town while not overburdening existing services.”

The vision for Tullow is as follows “To provide a focused approach to planning for the future growth of Tullow in a coherent and spatial fashion which seeks to deliver high levels of employment and balances future sustainable development with the conservation and enhancement of the town’s natural and built environment.”

The LAP recognises the importance of sustainable transport, including the effective integration of land use and transport and encouraging a modal shift from private transport to public transport, walking and cycling. It highlights the need for Green Infrastructure and a well-integrated network of green routes that promotes walking and cycling for everyday needs and recreation including routes along the river.

The River Slaney is noted to be an important natural amenity and tourist attraction. It has attractions such as fishing and canoeing. However there are minimal walking and cycling facilities alongside it.

The LAP outlines a number of policies that specifically relate to cycling or the provision of cycle infrastructure. It is the policy of Carlow County Council to:

- **RC 1:** To facilitate where practicable the provision of cycle-ways / walkways along the River Slaney in cooperation with landowners, Waterways Ireland and government departments. Any proposed cycling or walking routes along the River will be subject to Appropriate Assessment in accordance with the Habitats Directive.
- **TO 1:** To provide where feasible, and support the provision of tourism infrastructure and services, subject to the requirements of the Habitats Directive, including, walking, cycling and water based infrastructure and short-term guest accommodation facilities throughout the settlement in appropriate locations.
- **HO 6:** To assess the possibility of looped pedestrian and cycle routes along the river, the town centre and sites / facilities of interest in the town and its environs.
- **LUO 1:** To extend the existing pedestrian network and facilities and look at the possibility of cycling facilities.
- **TP 1:** To continue to promote a modal shift from private car use towards increased use of more sustainable modes of transport such as cycling, walking and public transport and to implement the initiatives contained in Government’s “Smarter Travel, A Sustainable Transport Future 2009-2020”.

Muine Bheag / Royal Oak Local Area Plan 2017-2023

The Muine Bheag / Royal Oak Local Area Plan (LAP) aims to improve the quality of life of the community and provide for the future sustainable growth of the town over the period of 6 years and beyond. It outlines the key objective of providing for “sustainable development that will enhance the vitality and prosperity of the town while not overburdening existing services.”

The LAP outlines the aim to create a more sustainable town the key focus is on promoting more sustainable modes of transport such as public transport, walking and cycling. The LAP also outlines the aim to facilitate sustainable accessibility and legibility within the town core area in favour of the needs of pedestrians, the mobility impaired and cyclists. The creation of

a network of strategic green routes within the town extending into the wider hinterland will cater for the recreational needs of the population and contribute to an improved quality of life as part of a compact town.

The Plan notes the reliance of the population on private cars and that the use of environmentally friendly modes of transport such as walking, cycling and public transport should be encouraged.

The LAP outlines a number of policies and objectives of Carlow County Council that relate to cycling provision:

- **LUO 1:** To extend the existing pedestrian network and facilities and look at the possibility of cycling facilities.
- **TP 1:** To continue to promote a modal shift from private car use towards increased use of more sustainable modes of transport such as cycling, walking and public transport and to implement the initiatives contained in Government's "Smarter Travel, A Sustainable Transport Future 2009-2020.
- **RC 1:** To facilitate where practicable the provision of cycle-ways / walkways along the extent of the River Barrow and Canal in co-operation with landowners, Waterways Ireland and government departments. Any proposed cycling or walking routes along the River and Canal will be subject to Appropriate Assessment in accordance with the Habitats Directive.
- **HO 6:** To support and facilitate in co-operation with relevant interested organisations including NPWS, the OPW, the Carlow Historical and Archaeological Society and Failte Ireland, the development of an appropriate cycle and defined pedestrian way linking the railway station, town centre, river and sites and facilities of interest in the town and its environs. Any proposed cycling or walking routes along the River will be subject to Appropriate Assessment in accordance with the Habitats Directive.
- **TO 1:** To provide where feasible, and support the provision of tourism infrastructure and services including, walking, cycling and water based infrastructure and short-term guest accommodation facilities throughout the settlement in appropriate locations.

As part of promoting Green Infrastructure, the LAP notes a proposal for a linear park along the River Barrow to provide passive and active walks and cycle routes along this man made habitat. It also notes a proposal for a well integrated network of green routes that promotes walking and cycling for everyday needs and recreation, primarily located along the River.

The River Barrow is highlighted as being an important natural amenity. It also has a number of attractions for visitors including walking and cycling. The LAP notes that walking along the River is a major attraction for the area, and that the provision of cycling facilities would be beneficial to provide visitors with another mode of transport.

Draft Graiguenamanagh-Tinnahinch Local Area Plan 2020-2026

The Draft Local Area Plan was developed by Kilkenny County Council and Carlow County Council. It sets out an overall strategy for the proper planning and sustainable development of Graiguenamanagh-Tinnahinch in the context of the Kilkenny County Development Plan 2014-2020, the Carlow County Development Plan 2015-2021 and the Regional Spatial Economic Strategy (RSES) for the Southern Region.

The Plan is underpinned by a vision that is intended to guide the future growth of the settlement in a sustainable manner, recognising its natural and built assets, and enhancing the character, heritage amenities of the settlement.

The Strategic Vision of the LAP is as follows:

“This Joint Local Area Plan will promote population growth of Graiguenamanagh and Tinnahinch, reversing the recent trends of population decline. The plan envisages a consolidated town centre with enhanced east-west connections for pedestrians and cyclists, combined with a range of traffic management proposals which will improve accessibility to and vitality of the consolidated town centre. The Plan will encourage job creation by capitalising on local strengths, including the towns’ unique setting, natural and built heritage and by enhancing the interface with the River Barrow, thereby supporting opportunities to sustainably exploit the river as a visual, recreational and tourism amenity. Development will be encouraged in a sustainable manner that promotes a healthy environment and healthy living and improved public spaces while protecting the unique built and natural heritage of the settlement.”

The Graiguenamanagh/Tinnahinch Tourism and Recreational Project Concept Study found several potential projects for Graiguenamanagh and Tinnahinch that will enhance its attractiveness as a visitor destination for day visitors/independent travellers including cyclists, walkers and holiday makers travelling by car. Over the period of the plan, it is estimated there would be 5,000 independent travellers in year one and this number would increase by 5% and 10% per annum through to year 5.

The LAP outlines a number of policies and objectives of Carlow County Council that relate to cycling provision:

- **S06:** To improve pedestrian and cycling mobility across the River Barrow between Graiguenamanagh and Tinnahinch so as to ensure ease of access to services and amenities.
- **TCO1.3:** To improve the accessibility of the town centre with particular emphasis on creating an environment that is accessible to pedestrians and cyclists through improved parking and pedestrian facilities.
- **OSO2.2:** To promote a network of paths and cycle tracks to enhance the use of the strategic open spaces in the town, while ensuring that the design and operation of the routes responds to the ecological protection needs of each site.
- **MTO1.3:** To improve the pedestrian and cyclist environment and promote ease of movement within the settlement to include facilities for older people. Direct, attractive, well-lit and overlooked linkages between community, education, retail and recreational facilities will encourage the residents and visitors to the settlement to walk rather than using unsustainable modes of transport.
- **MTO1.4:** To provide an enhanced pedestrian and cycle network in Graiguenamanagh-Tinnahinch including the provision of footpath improvements to ensure ease of access to public transport, the town centre, heritage sites and other recreational / community facilities.
- **MTO1.5:** To require the co-location of pedestrian and cycle routes on all new infrastructure connecting key destinations within the settlement, particularly between the schools, community centre and heritage sites such as Duske Abbey etc.
- **MTO1.8:** To undertake a mobility management plan that will consider the feasibility of all options for improving pedestrian and cyclist mobility between Graiguenamanagh and Tinnahinch and to implement the recommendations of the plan.

The area benefits from a significant level of green infrastructure. This creates attractive settings for visitors and residents. The green infrastructure is primarily located along the river where walking and cycling is encouraged. Objectives to promote and encourage walking/cycling routes have been included in the plan which encourages better pedestrian connections across the river, which is noted to provide opportunity for strategic Open Space

that can connect into a wider regional network and support opportunities for strategic walking and cycling routes.

The permeability and connectivity of the pedestrian and cycle network in Graiguenamanagh-Tinnahinch is poor, resulting from the topography of the settlement. Any new developments will be required to be designed as permeable and connected areas with pedestrian and cyclist linkages being an important consideration.

Future Local Transport Plans

Carlow County Council are required to develop Local Transport Plans as part of their Development Plan process. While the cycle network outlined in this plan has been created to reflect current transport arrangements, it may be subject to change based on the more detailed analysis and recommendations developed as part of the LTP process.

4. Proposed Carlow Cycle Network

Introduction

Following a review of existing data, policies and conducting workshops with Carlow County Council to review the draft cycle network, the following summarises the methodology and proposed cycle network development for Carlow. The full details of how all the CycleConnects networks were developed are available in the NTA Consultation website.

Prior to developing the Carlow County Network, a GIS model was established for the county. This model mapped all existing information made available for the county, supplied by various bodies including the NTA, Department for Transport, Traffic Infrastructure Ireland, Department for Education and Carlow County Council. The data collected includes;

- Locations of major employment and job density;
- Existing cycle infrastructure and routes;
- Existing bus stops, rail lines and other public transport;
- Location of schools and education centres; and,
- Shopping centres, hospitals and other destinations that may attract cyclists

The collation of this data has aided the selection of cycle routes in Carlow that are available to as many people as possible. It has also allowed for the servicing of key destinations within County Carlow.

Methodology

Following the collation of existing data, the cycle network plan for Carlow was developed. This is based on a three-tier system outlined in Figure 4.1 below.

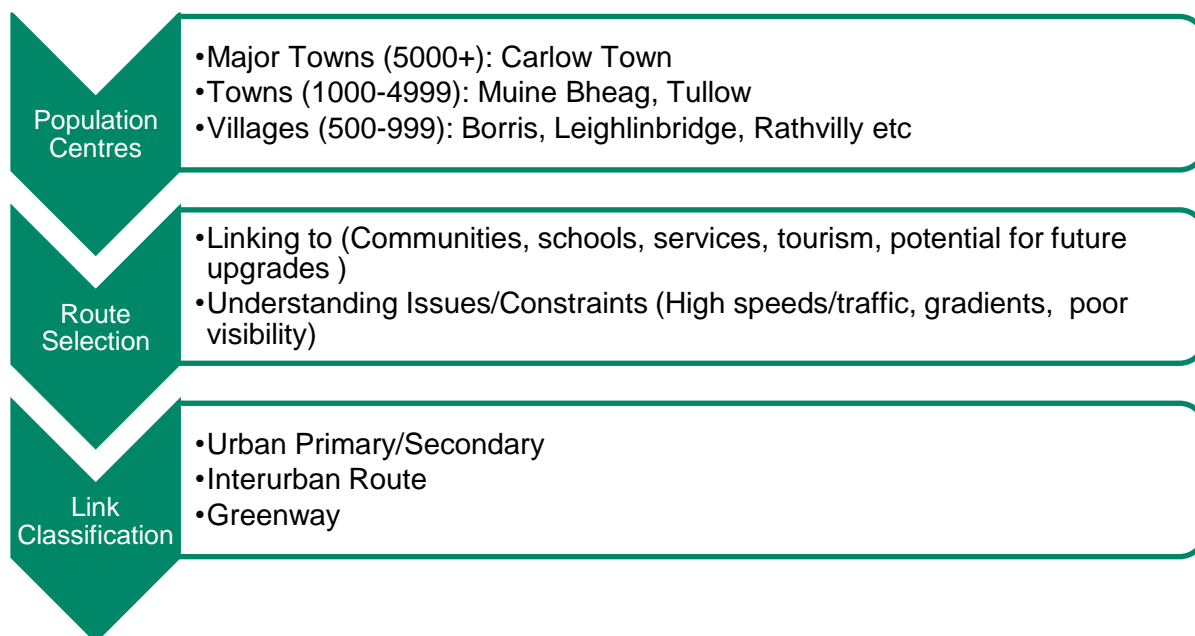


Figure 4.1: Cycle Network Development Methodology

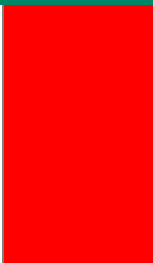


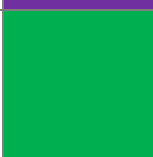
Population Centres: The Carlow CycleConnects Network will look to link towns and villages together as part of a fully connected network. Thus, all towns were mapped with the larger towns such as Carlow Town noted. By mapping all towns and villages, a profile emerged of

where most people in Carlow were situated and where potential cycle routes should be provided. CSO Settlement data was also referenced to inform where people were located within the county.

Route Selection: Once the population areas were established, potential routes were then considered along strategic corridors. This allowed multiple communities to be linked along individual interurban routes. Where possible, these routes were also located within TII National Cycle Network Corridors. This avoided too many parallel cycle routes being developed and for an integrated cycle network to be developed within the county.

Cycle Route Classification: The route classification for each route has been summarised below in Table 4.1. It should be noted that this link classification does not reflect the existing condition of roads for cycling but seeks to highlight their potential for various route classifications. For example, while there are many interurban routes that currently have no cycle infrastructure, the aspiration will be to target these over the next decade for appropriate upgrades.

Table 4.1: CycleConnects Route Classification

City/Town	Colour	Description
Urban Primary		High quality cycle route that can accommodate a high volume of cyclists typical in most urban areas. These will look to feature on major desire lines in town centres and form distinctive radial and orbital cycle routes in the major towns and cities. These primary routes should also form a cohesive and connected network within the urban area that will be simple for cyclists to navigate.
Urban Secondary		Second tier cycle route in major urban areas to link with urban primary network to add greater route density and options on the network. These will typically be passing through residential areas, school and employment areas.
Interurban		On-road cycle route to link all key settlements and destinations outside urban areas. These may have potential to provide off-road/segregated routes parallel to the existing road in later years.
Greenway		Off-road cycle route with no adjacent traffic for the majority of its route. These are typically located on old rail trails or on existing/proposed blueways with cyclists sharing the route with pedestrians.

Proposed Carlow County Network

Following the methodology outlined above, the Carlow CycleConnects Network has been outlined in a series of maps shown in Table 4. below. These are also available to view as an individual PDF when selecting county Carlow in the NTA consultation page.

Table 4.2: Carlow CycleConnects Network – List of Maps

Cycle Map List
Carlow County Cycle Network
Carlow Urban Cycle Network

The Carlow CycleConnects Network primarily extends the network beyond the key settlement area of Carlow Town. It will consist of an urban cycle network for Carlow, with interurban connectors between the towns of Tullow, Muinebheag, Bunclody-Carrickduff, Graiguenamanagh-Tinnahinch etc. These then extend into adjoining counties forming a comprehensive and connecting cycle network nationally.

Interurban Link Development

The primary towns with a population of over 1,000 were connected via interurban links. Where possible, towns with a lower population that were located along the route were included in the routes. Connections were also made to larger cross border towns in order to create a more comprehensive cycle network. The selection of interurban routes was also influenced by the location of schools/sports grounds on various parallel routes.

As part of the development of the interurban network, the Google travel planning tool was utilised to assist in selecting the most appropriate route between the various settlements. This included avoiding routes/routes with excessive gradients. In some cases, selecting a sufficiently flat route was not available. Thus, the most available flattest route was selected. However, some routes were modified slightly to connect with adjacent towns/villages or key destinations such as schools, sports pitches or tourist attractions.

The TII National Cycle Network Corridors have also been used to overlap corridors. These include corridors and routes into counties Wicklow, Wexford, Kilkenny and Kildare.

Greenway Route Integration

No Greenways are currently shown to run through Carlow. However, the Carlow County Development Plan does acknowledge the role of blueways and greenways so potential routes could be planned in the future.

Urban Network Development: Carlow

With a population of over 5,000 inhabitants, an urban cycle network has been developed for Carlow Town. The urban network is comprised of inner primary orbital routes and a larger amalgamation of both primary and secondary routes that encompasses the town.

The proposed primary orbital route starts at the junction of the R888 (Old Dublin Road) in the north of the town and continues north-east along the L4012, until its junction with Green Lane where it turns right onto the R448. The orbital route then continues along the R448 until its junction with Barrack Street where it turns northbound onto the R417. Finally the route continues northbound on this route until the junction with Dublin Road where it turns right, following the R888 until it rejoins at the junction of Railway Road.

In addition to this inner primary orbital route, an outer orbital route also encompasses the town of Carlow. Starting on the N80 and travelling west, the route then crosses into County Laois and travels south along the R924 and onto Carlow Northern Inner Relief Road Extension. From here, a secondary route then continues south of the town where it is proposed to continue southwards, passing Highfield Manor, then turns eastwards crossing the Barrow River and back into County Carlow. Continuing offline in an eastern direction the route crosses the L4038, the L1010 just south of Quinagh Green, tying back into the L1028, until its junction at Ballinacarrig Roundabout with the N80. The proposed route then travels northwards

through Wexford Road Business Park and again offline northwards crossing over the L1027 and extending northwards until it meets the R726 at its junction with Carlow Eastern Relief Road. The route travels westward along the R726 where it then becomes a primary route, from here it then meets the N80 to complete the orbital route.

Locations that are served by the orbital routes include:

- Carlow Train Station
- Saint Joseph's National School
- Hanover Park
- St Leo's College
- Presentation College Carlow
- Carlow Tennis Club
- O'Hanrahan's Gaelic Football Club
- Netwatch Cullen Park
- Carlow Town Hurling Club

In addition to the orbital routes a number of radial routes are also included to provide connectors with interurban routes in addition to serving locations that were not picked up on the orbital loop roads.

The radial routes usually travel in a north/south and east/west direction and comprise of normally primary routes; however some secondary routes form part of these routes. The radial routes are described below:

- A radial primary route travels along the R430 from County Laois into the centre of Carlow town, until its junction with Barrack Street.
- The next route travels from the Tullow Road Roundabout along the R725 (Staplestown Road and Tullow Street) until its junction with Castle Street. Additional other routes running east to west include the primary route travelling from the junction of Barrack Street running along the R726 (Pollerton Road) continuing past the N80 junction and continuing along the R726 until its junction with Carlow Eastern Relief Road.
- A route travelling from the north along the R417 (Athy Road) through the junction with Kilkenny Road and along the R448.
- The next north to south primary radial route begins at the Doctor Cullen Road Roundabout, extending southwards along the R448, Green Lane and onto Barrack Street. From here the route then turns onto Hanover Road (L4009) where it travels south and onto the L4019 (Green Road).
- The final north/south radial route starts at the Deerpark Roundabout, travelling south along the N80 / O'Brien Road until its junction with L1028 Ballinacarrig.

Locations that are served by the north/south and east/west radial routes include:

- Carlow District Hospital
- Carlow Court House
- Carlow National School
- Tyndall College Carlow
- Institute of Technology Carlow

- Quinagh House Golf Course
- Presentation Playing Fields
- Presentation College Carlow
- St Laurence O'Toole Athletics Club
- Éire Óg GAA Club

A number of primary and secondary routes are also proposed to act as interlinks to the orbital and radial routes in addition to serving locations that have not located on orbital or radial routes previously mentioned.

5. Next Steps

AECOM, as part of the NTA Cycle Design Office, have been requested by the NTA to develop comprehensive cycle routes for County Carlow and the town of Carlow.

The network design for Carlow has now been made available for public consultation. This will allow for members of the public to submit their feedback. Individual maps are available to view on the National Transport Authority website and are available in the links below:

Table 5.1: Carlow CycleConnects Network – List of Maps

Cycle Map List
Carlow County Cycle Network
Carlow Urban Cycle Network

Following the public consultation, submissions will be reviewed and the network maps updated as required.