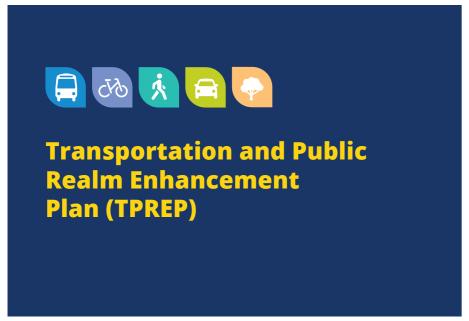
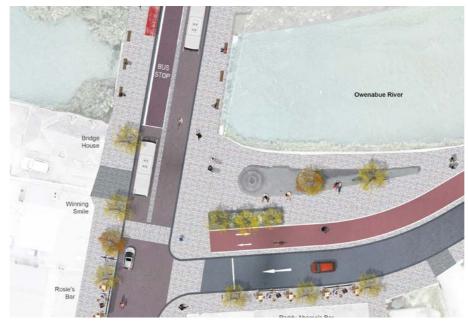
Carrigaline







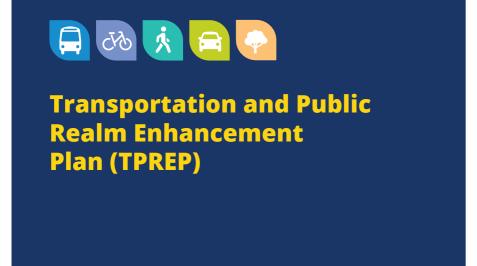






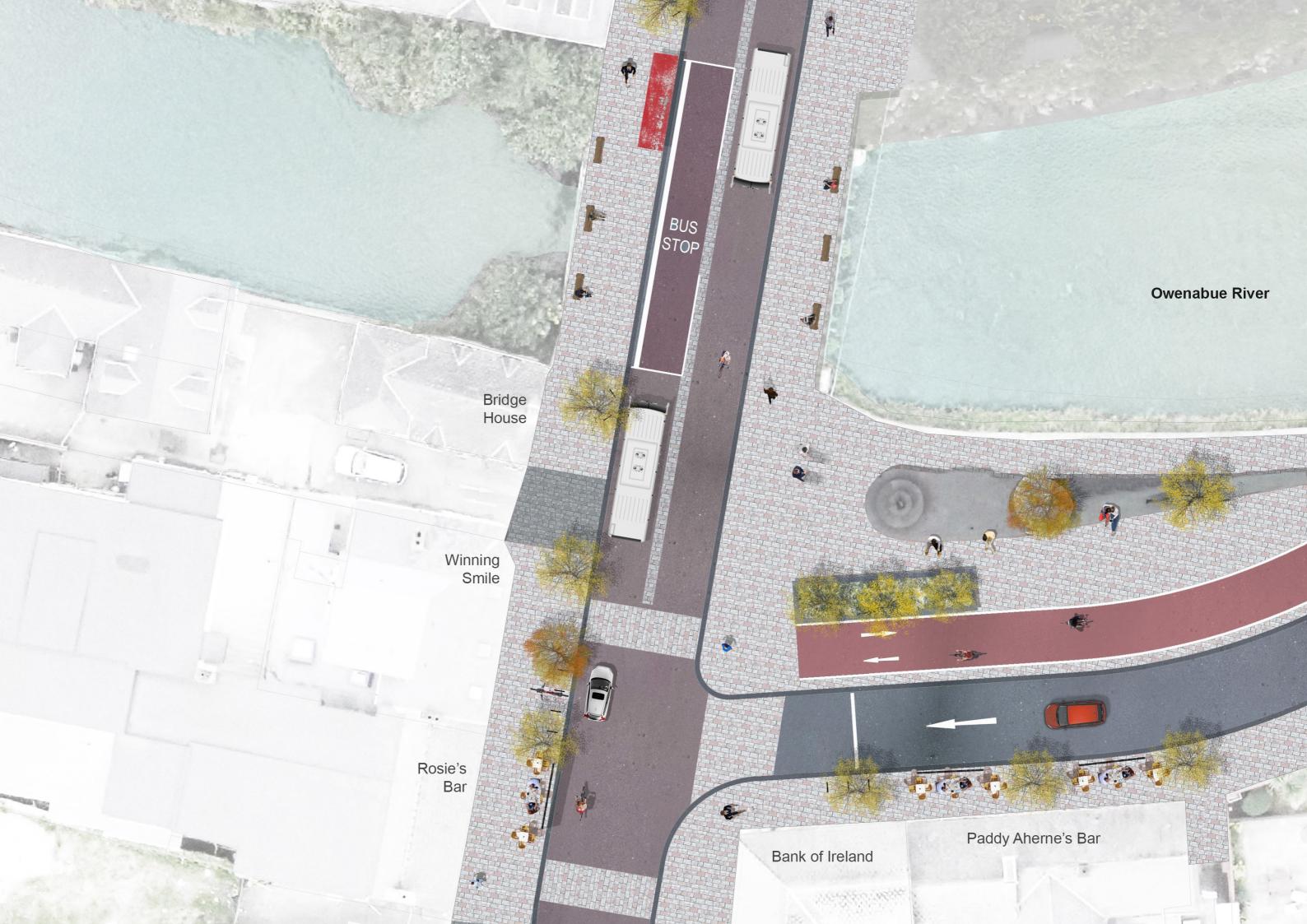












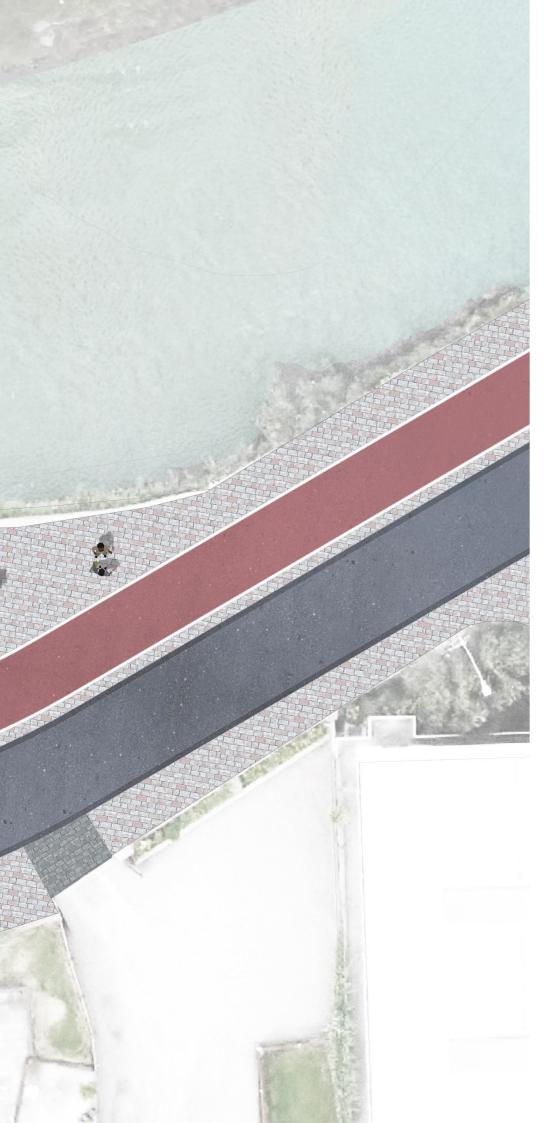


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Introduction









Section 1 Introduction

Study Background

The Carrigaline Transportation and Public Realm Enhancement Plan (TPREP) is an integrated transportation framework focused on addressing the transportation infrastructure and public realm enhancement required to support the sustainable development of the town.

The street environment in Carrigaline is currently dominated by vehicular transport. Although there is pedestrian infrastructure along most streets, it can be difficult for pedestrians and cyclists to freely travel across the town due to fast moving vehicles, parked vehicles and indirect walking and cycling routes. Our initial public consultation highlighted a strong call and a desire for change to create a more pleasant environment for walking and cycling within the town which will pave the way for a more sustainable future.

What is a Transportation and Public Realm Enhancement Plan?

A Transportation and Public Realm Enhancement Plan (TPREP) identifies the future transportation requirements of a town and considers them in the context of urban realm enhancement opportunities. The Plan endeavours to create an attractive urban environment celebrating the assets of the town and providing high quality spaces for people to meet others, sit, talk, enjoy being outdoors, all of which will facilitate town centre businesses to grow and flourish.

What do we want to achieve?

The aim of the Carrigaline TPREP is to ensure that there is an integrated approach to public realm enhancement and transportation planning that will achieve the following:

 Connect people to places via a sustainable transport network and reduce the level of car dependency in the town;

- **Create** a vibrant town centre, a place where people can meet, shop, do business and have fun;
- Provide the built environment to assist in rejuvenating business within the town centre:
- **Encourage** greater number of residents to walk and cycle in the town;
- **Improve** access to educational, social and employment opportunities.

Study Area

The study area includes the built up area of Carrigaline, as well as strategic routes linking into town and those that travel around the periphery of it. The study area also includes the areas adjacent to the existing built up area where potential urban growth may take place.

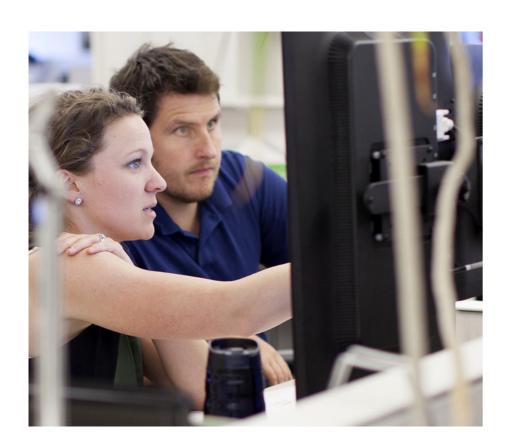
Study Integration

The Carrigaline Transportation and Public Realm Enhancement Plan (TPREP) has reflected on Cork County Council's future vision for the town up to the horizon year 2040 and is intended to align with the National Planning Framework. This approach will aim to ensure that the emerging strategies remain robust beyond the lifetime of the forthcoming Cork County Development Plan 2022 -2028.

The implementation of this Plan, with the help of funding from the National Transport Authority for those measures identified for implementation in the short term, will be town centre focused with an emphasis on enhanced public realm and the delivery of active travel and public transport interventions targeted at revitalising the heart of Carrigaline. This will be progressed in parallel with the delivery of a high-quality active travel network which will provide enhanced connectivity and permeability both within Carrigaline and extending beyond the town to surrounding destinations.

In order to ensure continuing compatibility with national planning and investment policies and thereby ensuring continued funding of its implementation, a review of the Carrigaline TPREP will be required based on the Area Based Transportation Assessment approach, as outlined in the National Transport Authority/ Transport Infrastructure Ireland Advice Note. It is considered that the appropriate time for such a review is at the end of the implementation phase for the short-term proposals and prior to the review of both the Cork County Council Development Plan 2022 - 2028 and the Cork Metropolitan Area Transport Strategy.





"A Transportation and Public Realm Enhancement Plan (TPREP) identifies the future transportation requirements of a town and considers them in the context of urban realm enhancement"

Project Process

The Carrigaline TPREP entails five stages including:



The study began by reviewing the existing transportation infrastructure and travel characteristics within Carrigaline. This provided a good overview of current issues within the town and was aided by consultation with residents, businesses, interest groups, local representatives and others on how they would like to see the town change and develop into the future.

The feedback from the 1st round of public consultation informed the development of the transportation strategy options. These strategy options were evaluated using range of criteria which identified the emerging strategy. The emerging Carrigaline Transportation and Public Realm Enhancement Plan was presented as part of the 2nd round of public consultation and the submissions received have been reviewed and included for in the finalisation of the plan.

In addition to the Final Report, a number of supporting documents have been prepared and included as appendices to this report including:

- · Baseline Report;
- · 1st Round Public Consultation Report;
- Local Area Model Calibration and Validation Report;
- Strategy Options Evaluation Report; and
- 2nd Round Public Consultation Report.

Section 1 Introduction

Carrigaline Today

Current Travel Patterns

The Carrigaline population is highly dependent on cars for travel. The latest CSO Census data shows that the town has unusually high car ownership compared to other towns in County Cork.

There are limited employment opportunities within Carrigaline thus requiring a significant majority of residents in Carrigaline to travel outside (generally by car) to employment centres in Cork City, Ringaskiddy and Little Island. During pre-Covid times, this resulted in more than 5,000 cars leaving Carrigaline in the morning and returning in the evening creating substantial demands on the existing transportation network. However, there are also a substantial proportion of internal trips within Carrigaline (almost 3,000 trips) associated with school or community trips, where a significant proportion of these are carried out by car.

The Census 2016 information noted that 26% of trips are shorter than 3km, trips of these lengths are very easily carried out by foot or by bicycle. Another 30% of trips are between 3km and 7.5km which potentially can be carried out by bicycle. Trips are greater than 7.5km which represents 44% of the total trips are generally more conveniently carried out by car or public transport.

Compared to other locations within County Cork, Carrigaline is highly dependent on car-based transport with less than 20% of trips carried out by walking, cycling or public transport. This relatively low percentage provides an opportunity to increase this modal share considering the high numbers of local trips most notably school trips, occurring on the current transportation network.

Car ownership



95%

of all households in Carrigaline own a car



50%

households own two or more cars

Employment & educational trips



of employment trip are car based trips



of educational trips are made on foot

Commuting traffic



5000

cars leaving Carrigaline in the morning and returning in the evening

Low Job:resident ratio



1:5

Carrigaline job : resident ratio



Cork & suburbs job : resident ration

Trips distances



26%

of trips are shorter than 3km

of trips are between 3km and 7.5km

of trips are between 7.5km and 15km

12% between 15km and 20km | **7%** between 20km and 50km | **5%** over 50km

Usual means of travel (Work & Education)











on foot

Cycle

Public Transport

Car

Passenger

3% others & not stated



11%

of total trips in Carrigaline are on foot compared to 20% in Cork City and Suburbs



Pedestrian Network

There is great potential for walking coupled with increased scooter use by children, which is becoming very popular and a more dominant mode of transport in Carrigaline. The town already has an extensive pedestrian network within residential estates and along public roads.

Carrigaline is generally flat which makes walking an attractive mode of transport. The town is compact so that most schools, shops, and other facilities are within walking distance. One of the challenges that Carrigaline faces is limited connection between residential estates. Therefore, indirect routes can significantly increase journey distance and travel time, which discourages walking as shown in the image to the left.

More direct connections to schools or leisure facilities through residential estates are especially required to improve accessibility for all age groups. In addition, the provision of wider footpaths, improved crossing points and managing vehicular speeds will all encourage a greater uptake in walking within the town.

Another challenge that pedestrians in Carrigaline face is the dominance of vehicles, especially along Main Street where footpaths are relatively narrow and cars take up most of the space in the form of traffic lanes and on-street parking.

There are further opportunities to provide an expansive integrated network of high-quality footpaths which meet good practice requirements. This network can focus on linking the town centre and improve linkages to schools, shops, parks and other public amenities within Carrigaline

Section 1 Introduction

Cycle Network

The current cycle network in Carrigaline is primarily focused on high-demand areas in and around schools; however, the network is limited outside of these areas. This may be one of the reasons why currently, only 1% of trips are by bike. Similar to pedestrians, cycling is inhibited by poor connectivity between residential estates, indirect travel routes and high vehicle speeds. There are good opportunities to increase the role of the bicycle in Carrigaline to serve short distance trips and this can be best achieved through the delivery of high-quality dedicated cycle infrastructure.

The Crosshaven Greenway is a major success and shows that investment in the pedestrian and cycle amenities can deliver positively for a community and promote well-being. The Greenway; however, terminates around 1km outside Carrigaline and there is a great opportunity to connect this recreational and commuting facility to the heart of the town. The abandoned railway line through Heron's Wood also provides an opportunity for the delivery of a strategic cycle route that can connect Passage West and Ringaskiddy to Carrigaline. The provision of these extended links provide an opportunity to connect the heart of Carrigaline with key amenity routes to the south of Cork City.

"The Crosshaven Greenway is a major success and shows that investment in the pedestrian and cycle amenities can deliver positively for a community and promote well-being."

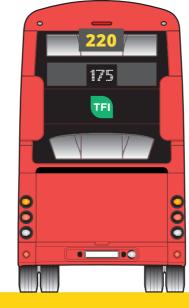
Public Transport

Carrigaline is served by a number of bus services. The 220 between Camden Fort and Ballincollig is within the top three patronage routes in Cork. This service runs every 15 minutes to Carrigaline and every 30 minutes to Camden Fort. There are three additional bus services which runs every 60 minutes including the 220X Crosshaven to Ballincollig, the 225X Croshaven to Ballincollig and the 225L Carrigaline to Ringaskiddy routes.

Bus stops are provided at regular intervals within the town and they also provide the opportunity for bus transfer.

Currently, buses in Carrigaline compete with general traffic and have no priority. Therefore, bus services are delayed in general traffic, thus reducing the quality of public transport services. There are opportunities to improve bus services by providing bus priority measures at key locations to ensure the reliability of the services serving Carrigaline can be maintained.







Car Parking

There is on-street car parking available along Main Street and Bóthar Guidel (Cork Road) and are mainly used for short durations, such as shopping and drop offs. It should be noted that between Main Street and Bothar Guidel there are 130 bays including loading and disabled bays. Parking surveys have shown that parking spaces on Main Street are generally well utilised and that there is availability at certain periods of the day.

The Owenabue public car park has a capacity of 130 car parking spaces and surveys show that the car park operates over 70% of its capacity most of the day.

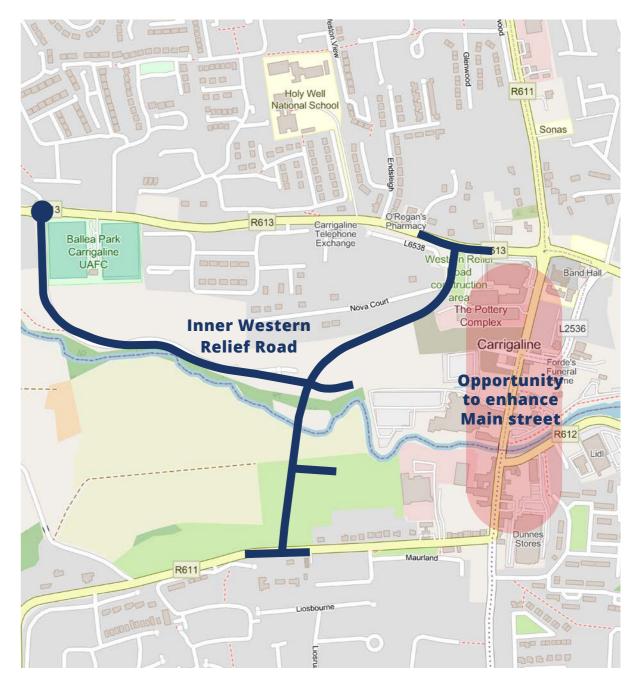
The largest car parking stock available in Carrigaline is at the shopping centres: Supervalu has 420 spaces; Lidl has over 100 spaces; and Dunnes Stores has almost 170 spaces. The parking profile during the day shows that these car parking spaces operates at 50% to 60% of their capacity.

Car parking spaces, especially along the Main Street, occupy a very high profile on this key retail/ commercial street. There is an opportunity to rationalise the operation of car parking spaces to create a more pedestrian and cycle-friendly environment within Main Street. The management of car parking also presents an opportunity to increase the utilisation and the turnover of car parking spaces thereby improving overall access to the street by those who need to travel by car.

Vehicular Traffic

Currently, traffic entering Carrigaline from the north relies on one key route from the national road network at Shannonpark Roundabout. It then splits in two at the Ashgrove Roundabout with traffic flow relatively evenly split between Bóthar Guidel and Main Street. This section of road carries more than 2,000 vehicles during peak hour periods and in general, traffic delays and congestion are experienced along Cork Road, Main Street, Bóthar Guidel and Crosshaven Road.

There are only two north-south connections across the Owenbue River which limits traffic flow from Crosshaven and the southside of Carrigaline to Cork City and all destinations beyond. The reliance on limited routes puts Carrigaline in a vulnerable position where congestion near these bridge crossings can result in wider delays across the network. The delivery of the Inner Western Relief Road provides welcome relief to these bridge crossings and provides a fantastic opportunity to relieve Main Street while ensuring accessibility to the town centre is maintained and strengthened.



Section 1 Introduction

Feedback from 1st Round of Public Consultation

Introduction

The first round of public consultation took place between 8 February and 1 March 2021. The objective was to hear the views of stakeholders in relation to the town's strengths, where improvements can be made, and to obtain comments around public realms and transportation infrastructure.

Due to Covid-19 the consultation was facilitated by making a presentation available online and providing the opportunity to provide comments.



Themes recorded from submissions

All submissions received were documented and considered in the development of the Plan. A summary of the themes raised is shown in the adjacent table.

The most frequent theme was traffic, however it should be noted that pedestrians, cycling and public transport were also raised in many submissions. Enhancement to the public realm was raised specifically referring to access to the river, wider public amenities, more trees, and improved lighting and green spaces.

From the submissions received it is apparent that a significant majority of respondents welcome the Carrigaline Transportation and Public Realm Enhancement Plan.

There was consistency across submissions for a call for change and a recognition that persisting with the status quo is unsustainable.

Items raised during the first round of consultation

The theme that was raised	%
Traffic	58%
Pedestrian	40%
Cycling	39%
Public Transport	23%
Public Realm	20%
Parking	13%
River Usage	12%
Bridge	9%
Amenities	7%
Planning	6%
Trees	6%
Green Space	4%
Lighting	4%
Waste	3%
General Environment	3%
Flooding	2%

Note: In some submissions more than one theme was raised, therefore the total in percentage does not equate to 100%.

Consultations Data



95 submissions were received



3,172webpage views of the actual Carrigaline TPREP were recorded



1,131 link clicks



included, amongst other:

- Traffic volumes within Carrigaline town centre and along Cork Road are very high, especially from Crosshaven to the N28;
- The quality of pedestrian infrastructure can be improved, providing wider continuous infrastructure and pedestrian priority. There is insufficient pedestrian infrastructure in Carrigaline and the quality of it needs to improve;
- The cycle route network in Carrigaline should be expanded to provide more route options to destinations such as the town centre and schools. The Greenway to Crosshaven should be extended into Carrigaline town centre and a cycleway should be provided that links to Ringaskiddy;
- Bus services in Carrigaline should be improved to run on schedule and the bus network should be extended to cover more of the town;
- Public seating should be increased and public places such as the Owenabue car park should be pedestrianised / converted into a plaza;

"Consistent across submissions was a call for change and a recognition that persisting with the status quo is not sustainable."



Section 1 Introduction

Interest Groups

Submissions were received from nine interest groups including:

- SECAD My Town Plan;
- Carrigaline Community Association, Planning and Environment Committee:
- · Lee to Sea Greenway Committee;
- Carrigaline Community Association;
- Transport and Mobility Forum (TMF);
- Pedestrian Cork;
- Cork Chamber;
- Cork Cycling Campaign; and
- Carrigaline Parish Care of the Earth.

"Improvement to active travel, connectivity, links to schools, improved public transport, pedestrianisation of Main Street and the introduction of speed limits"

These submissions were very detailed and covered a wide range of themes and topics, much in line with the themes raised the general public. These included amongst others:

- Masterplan ideas on how to expand the town centre towards the east;
- Expansion of the cycle network to connect to the Lee to Sea initiative;
- Proposal for a one-way system on Main Street and a town centre plaza in Owenabue car park and greater access to the River;
- Improvement of active travel, connectivity, links to schools, improved public transport, pedestrianisation of Main Street and the introduction of speed limits; and
- Better land use and transportation integration by creating a more compact town, live over shop units and brownfield developments before greenfield developments.

School Principal Interviews

As part of the public participation process, the project team undertook interviews with the various school principals in Carrigaline to develop a better understanding of the traffic and transportation issues pertaining to schools. The following matters were raised from these interviews:

- Insufficient car parking spaces to accommodate staff parking and drop off at schools;
- Residents complain about parents parking along both sides of residential areas close to schools, often having to make reversing manoeuvres to exit;
- Additional pedestrian crossing facilities close to schools can help facilitate safer road crossings; and
- Speeding cars past school entrances makes it difficult to enter schools for both pedestrians and parents dropping off pupils.



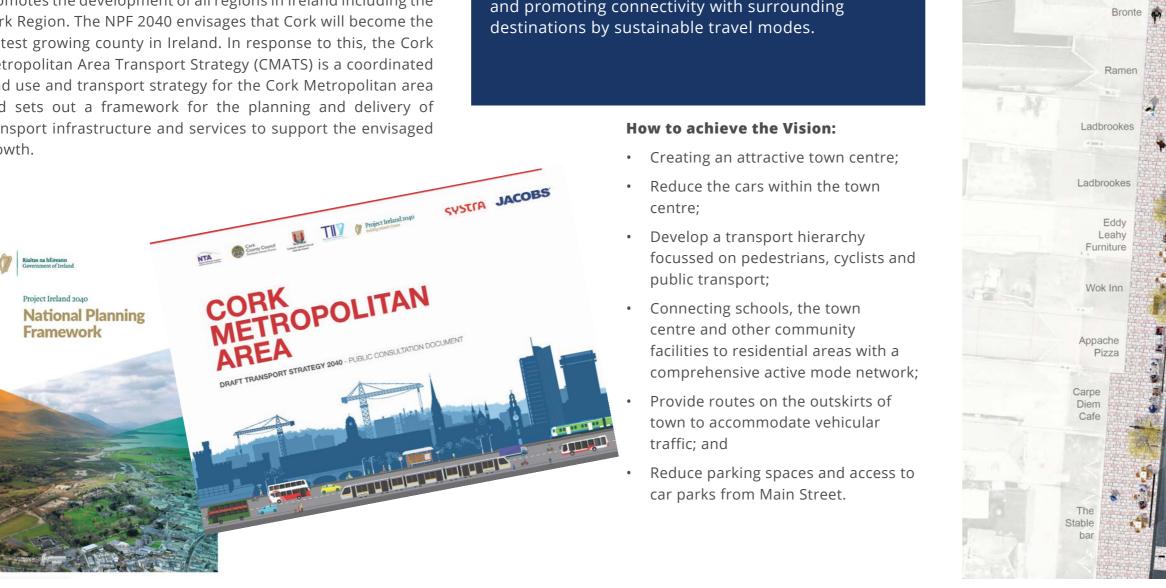
Vision for Carrigaline

Planning Policy

The National Planning Framework (NPF) 2040 promotes National Strategic Outcomes relevant to the future development of Carrigaline. These include the promotion of sustainable management of more compact towns and villages, enhanced access between residential areas and work opportunities and a shift towards sustainable modes of transport. The NPF promotes the development of all regions in Ireland including the Cork Region. The NPF 2040 envisages that Cork will become the fastest growing county in Ireland. In response to this, the Cork Metropolitan Area Transport Strategy (CMATS) is a coordinated land use and transport strategy for the Cork Metropolitan area and sets out a framework for the planning and delivery of transport infrastructure and services to support the envisaged growth.

Vision:

This Plan will provide the framework for an integrated transport network for Carrigaline with the purpose of rejuvenating the town centre, enhancing cycle and pedestrian amenities for residents and promoting connectivity with surrounding destinations by sustainable travel modes.







Section 2 Public Realm

Main Street

Introduction

The main street has traditionally been the focus for community activity in towns and villages all over the world. The place to shop, socialise, relax, visit the optician, get on a bus and all the other activities that require human interaction. Over the last seventy years or so, outdoor space for these activities to take place in has gradually been squeezed to accommodate increasing volumes of motor traffic. Over and above the erosion of the quantity of the public space, vehicular traffic has other detrimental impacts on the quality of the remaining public space through noise and air pollution. On Carrigaline's Main Street, the public spaces (primarily the footways) have been squeezed to a minimum with barely enough room in some places for two people to pass each other.

One of the central aims of the Transport & Public Realm Enhancement Project is to rejuvenate Carrigaline's Main Street so it can fully function, once again, as the community focus of the town. In addition to providing more space out on the street for people to shop, socialise and relax the public realm enhancement proposals will also make, active travel modes (walking and cycling) more appealing and viable as ways to move around Carrigaline. The introduction of bus priority measures along Main Street will allow buses to move more freely, making public transport a more attractive travel choice. These aims will be aided by the more strategic transport proposals set out through this report, namely rerouting through traffic off Main Street and the introduction of a bus gate on the southbound section through the centre.

"Over and above the erosion of the quantity of the public space, vehicular traffic has other detrimental impacts on the quality of the remaining public space through noise and air pollution."



Image Main Street long view with parked cars. Existing Section – Main St south



Image Buses and general through traffic. Existing Section – Main Street North

Vision

This Plan will provide the framework for an integrated transport network for Carrigaline with the purpose of rejuvenating the town centre, enhancing cycle and pedestrian amenities for residents and promoting connectivity with surrounding destinations by sustainable travel modes.





Carrigaline's Public Realm Today

Carriageway & footway widths

Main Street is generally between 12.5m and 16m wide with most of the space being designated as carriageway and footway. The carriageway tends to be between 9m and 11.5m which allows parking and loading to take place, often on both sides of the street. The footways are relatively narrow at between 2m and 3m and accommodate items of `street furniture' such as telegraph poles, litter bins and advertising boards which effectively leaves a walking width of as little as 1.4m in many cases.

The footways can also be uneven and are regularly `interrupted' at side roads and car parks, creating steps and trip hazards which makes them difficult for some people, particularly elderly or disabled people, to use.

The northbound bus stop in the village centre currently provides a poor level of service for waiting passengers, as there are no seats or shelter.

Currently, there are only a few street trees on Main Street and no seats or benches for people to rest or socialise.



Image Wide carriageway narrow footway



Image Interrupted footways



Image Bus stop

Section 2 Public Realm

Main Street

Design Concept

The `public realm' includes all the streets (footways and carriageways) and public spaces within Carrigaline that fall outside private property boundaries and are usually maintained by the Council. The public realm exists for the benefit of everyone and should therefore avoid exclusivity. This preliminary concept design attempts to strike an equitable balance between the needs of all the people of Carrigaline, including those just passing though, whilst helping to rejuvenate the village economy and encouraging more people to walk, cycle and use public transport. There will be places to sit, rest and socialise; trees to provide shade; places outside cafes and bars to eat and drink; places to park and secure a bicycle; comfortable places to wait for buses with shelters and benches; safe places for pedestrians to cross the street; and places to park, load and service shops.

Image Main Street South - Existing



Image Main Street Centre - Existing



Image Main Street South - Sketch View

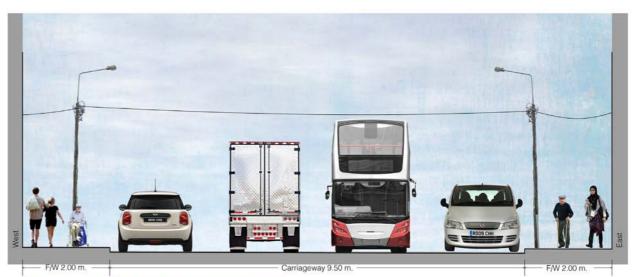


Image Main Street Centre - Sketch View

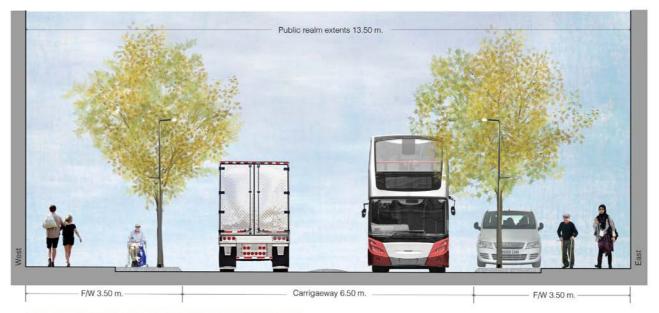


The Enhancement Proposals On Main Street

The following plans, sections and visualisations illustrate the proposals in two and three dimensions. They relate solely to the public realm of Main Street, from the junction with Old Waterpark in the north to the Kilmoney Road Lower / Church Hill junction in the south. The section of Cork Road from Old Waterpark to the Heron roundabout is part of the Main Street axis/spine of Carrigaline and should be included within the Main Street public realm enhancement project. It should be noted that proposals for this section have only been explored at the feasibility level. Due to the mature trees and on-street residential parking along the eastern kerb line, changes to this part of the street will be more modest and restricted to minor widening of the western footway, tree planting, seats along with works to tie into the proposed new Heron junction.



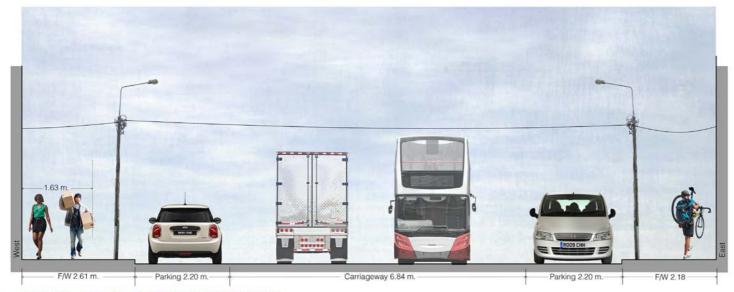
Existing cross-section through Main Street North (looking north).



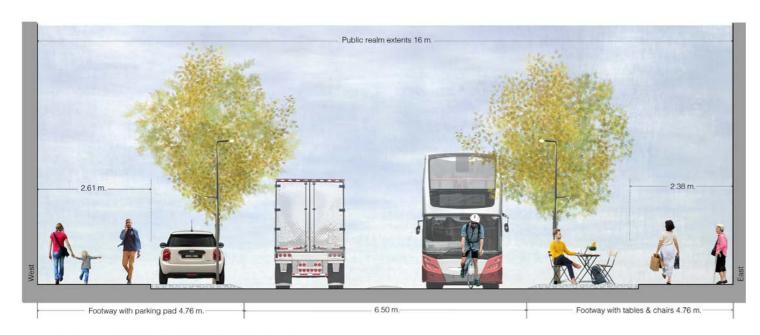
Proposed cross-section through Main Street North (looking north).

Section 2 Public Realm

Main Street



Existing cross-section through Main Street South (looking north).



Proposed cross-section through Main Street South (looking north).



Precedents

Similar types of public realm enhancement projects have taken place locally, in Cork City centre for example, which exemplify the multiple beneficial effects of these types of proposals.

Wide-ranging public realm enhancements were carried out on Park Lane in Poynton, England. This serves as a useful precedent for Main Street Carrigaline as it demonstrates what can be achieved in town of a similar size and scale. It is worth noting the flush central median, the informal pedestrian crossing and the high quality of materials and installation.

Traffic Management

The wider TPREP proposals will help to facilitate the proposals set out below. Specifically these include: re-directing through traffic to peripheral orbital routes and away from main street; removing the access off Main Street into the central carpark on the north bank of the Owenabue River and introducing a `bus only' restriction on the southbound lane between Church Road and the Bridge. All these measures will help to reduce the volume of traffic on Main Street whilst still providing local access.

Widening footways

Widening footways to improve the walking environment and provide space for social activities can be achieved by narrowing the carriageway to an accepted minimum of 6.5 m (DMURS page 102) in a town centre environment.

This width allows for the safe passage of large vehicles and more importantly allow footways on both sides of the street to widened on average to around 3 m to 3.5 m. This represents a doubling of the pedestrian capacity in places, especially when combined with the proposal to re-route telecommunication cables below ground and remove the large telegraph poles which currently obstruct the footway.

Enhancing the walking environment

To encourage more people to walk, the footway environment needs to be comfortable, connected, and safe. Therefore, the footways, on both sides of the street, as well as being widened and repaved, will also continue to be raised across the mouth of side roads, driveways and carpark accesses. This is to give pedestrians greater priority and remove potential trip hazards caused by dropped kerbs.



Image Cork City Centre following public realm enhancements



Image Park Lane, Poynton, following public realm enhancements



Image Typical raised continuous footway detail

Section 2 Public Realm

Main Street

Improving conditions for cycling

Narrowing the carriageway, as well as the proposed 30kph speed limit, has the secondary beneficial effect of slowing traffic speeds. This in turn helps to reduce air and noise pollution and uplift the general amenity value of Main Street. A flush, over-runnable, central median (similar to the one used in the Poynton precedent image) will help to reduce the apparent size of the carriageway without compromising its functionality and further contribution to slowing traffic. Slower traffic will make Main Street a safer and more attractive place to cycle and makes the street easier and safer to cross. Rerouting through traffic away from Main Street as part of this plan will only amplify these positive effects. Cycle parking will be provided along the full length of Main Street with greater concentrations at key strategic locations such as the Owenabue Bridge at the intersection with the Greenway.

Life on the street: seats, tables & chairs

The wider footways will provide space for public seats and benches providing essential places to rest as well as socialise. Space can also be provided on the footway for eating and drinking outside cafes, bars and restaurants which will help to boost the economy of Carrigaline and improve the sense of community.

Parking and loading

Parking and loading activity can no longer be accommodated on the carriageway due to its reduced width. Therefore, raised bays will be provided on the footway, where necessary. These can be sensitively managed to, for example, allow loading to take place early in the morning, parking throughout the day and alfresco dining & drinking in the evening. In total, approximately 40 parking spaces, will need to be relocated off Main Street to allow the public realm enhancements, as described above, to be implemented.

Trees and planting

Trees are an important component of most streetscapes enhancement projects as they provide shade and shelter, help to improve air quality and greatly enhance the streets amenity value. A mix of trees are proposed for Carrigaline, of a type and size in keeping with the scale of the street, and with a fastigiate/columnar habit to avoid vehicle strikes. Some, if not all of these, will be native or at least naturalised and of Irish provenance if possible.

There may also be opportunities to carry out some other lower-level planting within the public realm and simultaneously creating sustainable drainage features such as raingardens.



Image Typical flexible parking bay & loading bay integrated into the footway

Owenabue carpark

The Council's central carpark, on the north bank of the Owenabue River, offers a fantastic opportunity to create a new public space in the centre of Carrigaline, by re-claiming the western corner of the carpark. This project is being pursued separately by the Council but it will complement the emerging public realm ideas for Main Street.



Image Typical raingarden planted with grasses and wildflowers

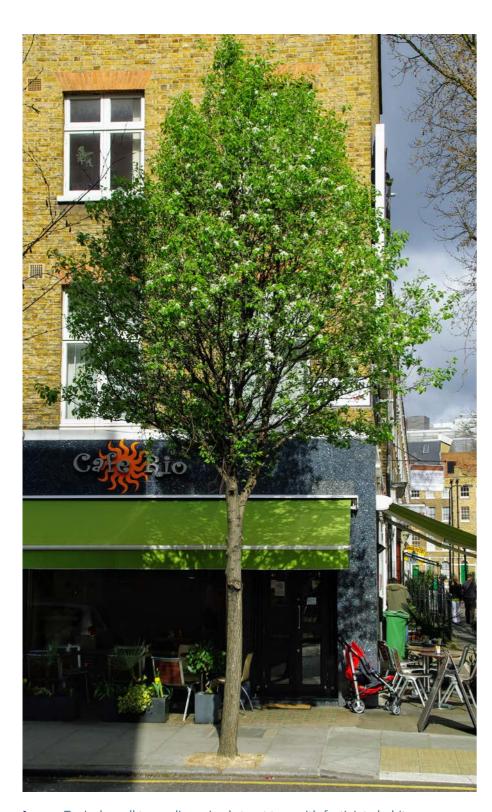


Image Typical small to medium sized street tree with fastigiate habit

Signage and wayfinding

A coordinated signage and wayfinding strategy will be developed to complement the public realm enhancements on Main Street. This is important to help to encourage more people to walk and cycle and should be extended to the outer edges of the town to create a catchment that includes the residential neighbourhoods. Any signs and maps installed as part of this strategy should include walking and cycling times as well as distance as this will inform in a very immediate way the proximity of the key destinations. The physical infrastructure should be developed as a coordinated package with digital tools as these are becoming increasingly important navigational tools. (https://smartcitiesireland.org/)

Street furniture

A coordinated range of street furniture will be sought for Main Street as this will help to strengthen the identity of Carrigaline and assist in developing a notional `brand' for Main Street without being too overt. Principally, this will include seats, benches, litter and re-cycle bins and cycle stands. Most of the seats should have backs and arm rests as these are more comfortable and easier to get in and out of. They should be made principally of hardwood as this is long lasting, easy to maintain and more comfortable than stone or steel. The seats should be complemented with some simple benches as these allow different sitting options along with single seats where space is limited.

Paving materials

A palette of materials should be developed in consultation with the area as they will be responsible for Main Street's upkeep and long-term maintenance. Locally sourced stone should be considered as the first choice for kerbs, edgings and paving materials as this is highly durable, aesthetically-pleasing and ages well. If local stone is too expensive then locally-manufactured clay or concrete products can be considered along with imported stone.

Shop fronts improvements

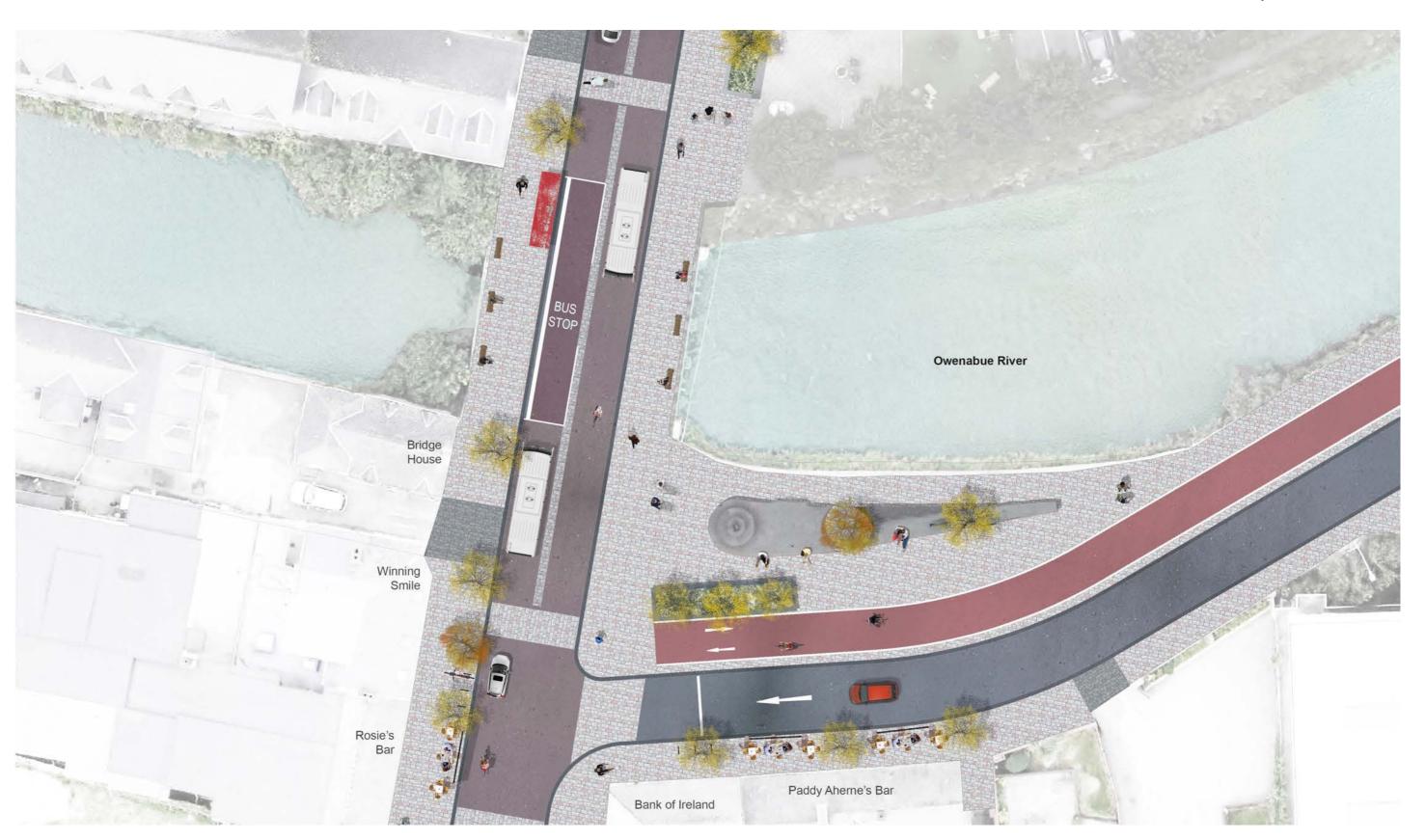
As main streets and town centres, like Main Street Carrigaline, seek to redefine themselves in the age of online retail, the visual quality of the architecture and shop frontages should not be overlooked or underestimated. Public realm enhancements often go hand-in-hand with other initiatives such as shop front improvements and re-branding to help town centres become more appealing.

Street lighting

As part of the public realm enhancements, the combined telegraph poles and streetlight will be removed with the telecommunication cables being routed underground. New streetlights will need to be installed as part of the renewal works. In principle these should be relatively neutral in design terms so as not to, create more visual clutter, and, if painted black, will further recede into the background. Like the other pieces of street furniture local suppliers and manufacturers should be considered first.

Section 2 Public Realm

Visualisation showing the greenway/cycle route at its junction with Main Street.





Main Street

Gateways and speed reduction

The enhancement proposals will represent a dramatic change to the streetscape of Main Street: narrowed carriageway, trees, new paving etc. indicating a shift from a sub-urban `road' or `highway' to a more town centre `street' environment. This change will have a `gateway' effect where a change in the townscape, and an increased frequency of pedestrians and cyclists, will signify a change in the behaviour, causing drivers to slow down, irrespective of changes in the speed limit.

Future Developments

Several mixed use / retail developments are due to come forward in and around Main Street and the town centre of Carrigaline over the next few years. It is important that these developments reflect the principles of the Main Street enhancements: widened footways and `life on the street; continuous footways and pedestrian priority; slower traffic speeds and safe cycling conditions; bus priority; seats, street trees and humanised streetscapes to secure a sustainable future for Carrigaline. Materials and details established on Main Street should also inform (if not mimic) the public realm within the adjacent development sites. Other fundamental principles of good urban design must also be embedded in these new developments including: active frontages; high permeability; pedestrian and cycling priority and increased density.

The Owenabue Greenway

A new east – west `Greenway' cycle track which follows the Owenabue will cross Main Street just south on the River and bridge. This will provide an important new link to the centre of Carrigaline.

Section 2 Public Realm

Hinterlands

Introduction

The Carrigaline TPREP proposals are wide ranging and they will have positive impacts on the peripheral residential suburbs and the strategic road network beyond Main Street. There are several opportunities to:

- improve the existing walking and cycling networks in addition to making new connections and introducing wayfinding; and
- to upgrade the quality of the public open spaces within the residential areas and establish more diverse habitats in the new and existing highway corridors through native tree and shrub planting.

These opportunities are explored in more detail in this section.

Primary Road habitats

Primary Road corridors present a unique opportunity to establish and extend wildlife networks by planting new woodlands, hedgerows, and wildflower meadow habitats with positive effects on amenity and biodiversity.



The example above, on the Cork Road, typifies these road corridor landscapes with a wide close mown grass verge, with occasional trees, bordered by a woodland / hedgerow fragment on the property boundary. The woodland / hedgerow fragment is already valuable habitat especially compared to the ecologically sterile `green desert' of the close mown grass verge.



The amenity and biodiversity value could be improved with a relatively modest initial investment by extending the woodland / hedgerow planting into the verge and/or replacing the mown grass verge with a wildflower meadow. Both habitat types will, in the long-term require less maintenance than the current '12 cuts per year' that a close mown grass verge typically receives. A wildflower meadow, for example, usually requires a single cut annually. Extending the woodland / hedgerow would also have the effect of improving air quality and containing noise pollution.

Public Open Spaces

Within the residential neighbourhoods surrounding Carrigaline there are many public open spaces, often referred to as SLOAP (Space Left Over After Planning), which have no prescribed function and a low amenity value: close mown grass and a single small tree in the example below.

The example below shows how an unused patch of grass in a suburban park was simply transformed into a wildflower meadow with mown paths and seats.



These offer multiple, often low cost, opportunities for improvements: improving and extending the walking and cycling networks; introducing play or informal sport; establishing habitats amongst many others.







Section 3 Transportation Strategy Development

Introduction

As part of the preparation of the Carrigaline Transportation and Public Realm Enhancement Plan, it was important that a number of alternative transportation strategies were considered to ensure that the most appropriate plan was adopted for Carrigaline. The strategy development phase identified different transportation strategies, each potentially having different outcomes in terms of improved accessibility for the town. The different transportation strategies were developed based on the examination of existing travel demands within the study area and reflecting on both the baseline information and the feedback obtained from the public consultation process. The evaluation of each of the transportation strategies was based on the criteria set out in the Common Appraisal Framework for Transport Projects and Programmes published by the Department of Transport, Tourism and Sport.

In total, eight transportation strategies were developed and evaluated for the study area. Each of the strategies developed included alternative road improvement options to allow for the delivery of the key objectives of the Plan which are to rejuvenate the town centre, ease congestion and the dominance of the car in the town through the provision of sustainable transport infrastructure, and create new public realm opportunities with increased accessibility for all.

Strategy Development

The transportation strategies considered as part of this Plan are presented in this section and each strategy includesenhancements for pedestrians, cyclists and public transport users in Carrigaline. The transportation strategy options were assessed individually based on established key criteria to allow a comparison between the options and the identification of the emerging preferred transportation strategy. This strategy was then developed further to include additional detail with respect to active and sustainable modes.

"In total, eight transportation strategies were developed and evaluated for the study area."







One of the most direct means of resolving the current transportation challenges in Carrigaline would be to provide additional capacity along the existing road infrastructure in the town. To achieve this, the capacity of Cork Road and Bóthar Guidel would be raised by providing an additional northboundand southbound lane, thus widening it to a dual carriageway between the Shannonpark Roundabout and Crosshaven Road. This strategy also provides the opportunity for reduced traffic flows on Main Street to make space for enhanced public realm and sustainable transport infrastructure.

This strategy does however allow more traffic through Carrigaline and the scale and width of the road is such that it becomes a barrier to active modes of travel.



Transportation Strategy 2: Central Line Upgrade & One Way System

The second strategy considered included the provision of a dual carriageway between the Shannonpark Roundabout and the Ashgrove Roundabout only and convert Bóthar Guidel and Main Street into a one-way system to support higher traffic flows. This strategy would simplify traffic movements at junctions providing greater capacity, but as a consequence would introduce longer journeys within the town and would result in higher traffic volumes along Main Street. This strategy would therefore have an impact on a key objective of the Carrigaline Transportation and Public Realm Enhancement Plan in terms of rejuvenating the town centre.



Transportation Strategy 3: Carrigaline LAP Outer Relief Road

The current Local Area Plan for Carrigaline has identified the route of a possible Outer Western Relief Road. The purpose of this route is to provide an alternative route for traffic from the Crosshaven Road and areas to the south of Carrigaline to avoid the busy town centre and existing congested routes. The proposed route is approximately 8km in length and is significantly longer than the 3km using the existing road network.

The delivery of this infrastructure would be costly due to its length with potential environmental constraints, due to a combination of its alignment along the Owenabue River and the requirement for a number of river crossings.

Section 3 Transportation Strategy Development



Transportation Strategy 4: Northwestern Outer Relief Road Option 1

As a variation to the Outer Western Relief Road presented in the Local Area Plan, the northern section of the route has been considered under Transportation Strategy 4. This section of route is likely to attract higher traffic flows than the southern section and in the short to medium term, while the Western Inner Relief Road would provide good access to this route from the south of Carrigaline. The alignment of this option would follow the existing roadways with the extent of upgrade works confined to localised widening and realignment, strengthening and resurfacing. In addition, key junctions along the route would be upgraded to improve safety and operational performance. The delivery of the northwestern outer relief road has the potential to improve conditions along Cork Road and Main Street in Carrigaline and would be complementary to public realm improvements along Main Street. In addition, it is possible to deliver this route with limited environmental impacts.



Transportation Strategy 5: Northwestern Outer Relief Road Option 2

As an alternative alignment for the northwestern outer relief road, a route closer to the built-up area of Carrigaline has been considered under Transportation Strategy 5. A route closer to the town is likely to attract greater traffic flows with a corresponding greater relief to the existing road and street network in Carrigaline. However, it is noted that the topography through which this route needs to traverse is very steep due to the presence of rolling hills in the north-west of Carrigaline. The delivery of this new road would require extensive excavation and embankment support particularly at the tie in to Ballea Road.



Transportation Strategy 6: Southwestern Outer Relief Road

As a further variation to the Outer Western Relief Road presented in the Local Area Plan, the southern section of the route has been considered under Transportation Strategy 6. This section of the route proves enhanced access between the southern part of Carrigaline (Kilmoney Road) to Ballea Road and would provide a further crossing of the Owenabue River.

The construction of the Western Inner Relief Road will provide significant additional capacity for traffic that needs to cross over the Owenabue River. It is likely that the delivery of further additional crossings of the river is a longer term aspiration.





The draft Cork Development Plan envisage the short and medium-term expansion of Carrigaline to predominantly occur in the town centre and towards the north east of the town. The topography of this area is the most favourable for future development and is also proximate to the key employment centre in the area, Ringaksiddy.

Transportation strategy 7 builds upon the northwestern outer relief road and includes a northeastern relief road to the network as well, supporting the proposed development in the area. This option therefore provides Carrigaline residents with a choice of routes to the proposed M28 Motorway, a western route, a central route using the existing Cork Road, and an route using Ringaskiddy Road. The use of these three roads would distribute traffic demands across a number of routes and provide greater opportunities to upgrade the existing roads and streets in Carrigaline to include active and sustainable travel interventions. This option achieves the objectives of the Plan by reducing traffic volumes within the town centre, creating opportunities to provide infrastructure for both active and sustainable travel modes.



Transport Strategy 8: Owenabue Estuary Bridge Crossing

A significant proportion of through traffic within Carrigaline is generated from the Crosshaven direction and Transportation Strategy 8 includes a new road and bridge across the Owenabue Estuary connecting the Crosshaven Road with the proposed new M28 Motorway.

This transport proposal provides an eastern outer bypass for traffic travelling from Crosshaven and other areas within the vicinity, as well as an alternative route between Ringaskiddy and the southern parts of Carrigaline. This would potentially lead to commuters avoiding the need to travel through Carrigaline and thereby providing congestion relief and opportunities for active travel investment. The delivery of such large-scale infrastructure within environmentally designated areas would be challenging and costly particularly considering the likely traffic demand for such infrastructure.

"The draft Cork Development Plan envisages the short- and medium-term expansion of Carrigaline to predominantly occur in the town centre and towards the north east of the town."

Section 3 Transportation Strategy Development



Strategy Evaluation

All eight strategies were evaluated based on the key criteria established with the Common Appraisal Framework for Transport Projects and Programmes published by the Department of Transport and Tourism and Sport and includes the following:

Criteria	Key Performance Indicat				
Economy	Operational Performance				
	Capital Cost				
Safety	Road User Safety				
Integration	Alignment with prevailing policy documents				

Evaluation of Transportation Strategies

The following table presents a summary of the evaluation of the eight transportation strategies.

Transportation Strategies 1 and 2 are expected to have significant social and safety impacts within the environs of Carrigaline by introducing a barrier to active travel modes and dividing the town in two. The widening of roadways in the town would have an impact to the surrounding environment by introducing higher traffic speeds and limiting the promotion of active and sustainable travel modes. In addition, the delivery of the public realm improvements on Main Street would be affected by Transportation Strategy 2.

No	Evaluation Criteria	Transportation Strategy							
		1	2	3	4	5	6	7	8
1	Operational Performance								
2	Capital Cost								
3	Road User Safety								
4	Policy Integration								
5	Environmental Impact								
6	Land Use Impact								
7	Accessibility and Social Inclusion								

Transportation Strategy 3 is a particularly expensive option with potentially negative impacts on the receiving environment and is recommended based on its current alignment. Transportation Strategy 4 which is a variation of strategy 3 is considered to potentially have a positive impact on Carrigaline's transport network as would Transportation Strategy 5, however it is not considered feasible considering the scale of civil engineering works needed to deliver this alignment.

Transportation Strategy 6 has the potential to resolve congestion issues potentially arising in the long-term by providing a further crossing of the Owenabue River in time. While Transportation Strategy 8 is not recommended considering its potential environmental and capital costs.

Transportation Strategy 7 is the preferred strategy as it would encourage traffic to use existing roads to both the east and to the west of the town, providing the required framework to allow for the upgrade of the streets within the centre of Carrigaline to accommodate greater access by active and sustainable travel modes. The delivery of these outer relief roads is focused on maximising the potential of existing road infrastructure and their safe operation which would ensure that Carrigaline can grow in a sustainable manner and would create a new community focus on Main Street. The provision of enhanced public realm and a new social environment on Main Street would help secure the delivery of the key objectives of this Plan.





Transportation









Introduction

The road and street network in Carrigaline supports a multitude of various trips, such as parents walking and driving their children to school, residents availing of existing retail and community services, and commuters travelling to and through Carrigaline. However, the streets of Carrigaline are largely dominated by vehicular activity, which creates an environment where the potential footfall within the town centre is not realising its full potential. Carrigaline is generally a geographically flat town with many green spaces, natural assets and heritage to be celebrated that can be further shaped into a highly accessible town by active modes with a vibrant town centre which is attractive to both local residents, businesses and visitors.

With a focus on Main Street, Carrigaline needs intervention to realise its potential to becoming a well-balanced town accommodating all modes of transport. This intervention would focus on managing car volumes to achieve a reduced presence within the town centre, the encouragement of walking and cycling, and the decluttering of streets.

The Carrigaline Transportation and Public Realm Enhancement Plan sets out a range of measures to enhance the public realm of the town and to address the attractiveness of Carrigaline as a place where one can walk, cycle and use public transport .

The Plan

Focuses on improving the public realm through an enhanced Main Street.

Aims to enhance access to the town centre by foot and by bike and to encourage and facilitate ease of access to key destinations in the town.

Proposes traffic management measures to reduce town centre traffic by providing alternative routes around the town particularly for long distance and heavy vehicle traffic. "Dominating vehicular activity creates an environment where potential footfall in the town centre is not realising its full potential"



Cycle and Pedestrian Network

In order to meet the **Vision** and objectives of the Carrigaline Transportation and Public Realm Enhancement Plan, the identification of a hierarchy of pedestrian and cycle routes was required. This network of cycle and pedestrian facilities provides a high quality, safe, inviting and comfortable environment for pedestrians/ cyclists and supports an increase in the number of local trips to be carried out by active modes.

Carrigaline is relatively flat and compact and has good pedestrian facilities particularly in the new housing estates. On the public roads and streets, there are opportunities to increase the continuity, standard and permeability of pedestrian and cycle facilities, and to provide additional safe road crossing points along the routes.

The pedestrian and cycle network proposed in this Plan will maximise access to the town centre and key educational, employment and leisure facilities. It will remove barriers for cyclists and pedestrians and provide more safety and priority at the appropriate locations. The Plan will also provide for longer distance walking and cycling journeys by connecting to the Crosshaven Greenway and the future Passage to Raffeen cycleway.

Where possible, pedestrians will be segregated from both cyclists and general traffic and will be provided with footpaths on both sides of the roadway. On Main Street, wider and more generous footpaths will be provided and dedicated signal crossing points will be provided at key locations. For cyclists, the proposed routes will be fully segregated in the majority of cases, with cyclists physically separated from motorised traffic. In central core areas such as Main Street, the integration of cyclists and general traffic is encouraged to reinforce the pedestrian dominance of the new Main Street and to ensure that wider footpaths are provided to support outdoor eating, public seating, landscaping and general public realm enhancement.

Finally, the cycle and pedestrian network will be complemented with revised traffic management measures which will manage vehicular access to the core of the town centre and encourage the use of alternative bypass routes, while ensuring access is maintained for those who need to visit Main Street.

The overall pedestrian and cycle network plan has been formed on the basis of four levels of network which support each other and reinforce connections within and outside the study area. These networks are classified as 'strategic', 'primary', 'secondary' and 'feeder' routes.

"The pedestrian and cycle network proposed in this Plan will maximise access to the town centre and key educational, employment and leisure facilities."





Strategic Network

The Carrigaline Transportation and Public Realm Enhancement Plan includes the extension of two strategic pedestrian and cycle routes to directly connect with Main Street. The delivery of these two strategic routes will bring these high-quality amenities and their users directly into the heart of Carrigaline. These connections will add to the vitality and vibrancy of Main Street, support the growth of business in the town, and will provide a key destination for cyclists and walkers along the greenway to avail of the many services that Carrigaline offers.

The strategic routes will have a dual function as they will also provide access to key education facilities along Bóthar Guidel and employment opportunities along the Crosshaven Road. Finally, the extension of the greenway to the west of the town will improve access to the Owenabue River and will provide residents with a new amenity integrated within the town centre public realm enhancement plans and the existing amenities provided within the community park to the east of Bóthar Guidel.

Within Carrigaline, the strategic route proposals generally include a wide corridor with dedicated controlled crossing points at major junctions to ensure maximum safety for the wide age group expected to use these routes.

Figure Strategic Cycle Route Network



Carrigaline to Passage West Strategic Cycle Route: Connects Carrigaline to Passage
West along the line of the old railway.

This link will follow a route through lands reserved through Janeville and Herons Wood and will connect to Bóthar Guidel at the existing entrance to Bridgemount and Gaelscoil Charraig Ui Leighin. This route will be linked to the Carrigaline to Crosshaven route.

This link will also potentially provide access to Ringaskiddy by extending secondary links towards the east.

Carrigaline to Crosshaven Greenway:
Connects Crosshaven to Carrigaline again along the existing old rail line. The majority of this facility already existing but ends approximately 1km outside of Carrigaline, the extension of this facility will be along the existing Crosshaven Road in as far as Main Street with a further extension proposed westwards along the Owenbue River.









Primary Pedestrian and Cycle Network

The Primary Pedestrian and Cycle Network along with the Greenway network provides the core of the network serving Carrigaline and is focussed primarily on the main roadways and streets in the study area along with a number of off-line connections. In total, 6 Primary Routes have been identified.

- **1. Kilmoney Road Route:** Connects the Castle Heights housing estate on the Kilmoney Road with the Ballea Road cycle route adjacent to the existing soccer club. This route will include upgrading the existing Kilmoney Road to provide safe pedestrian and cycle facilities on both sides of the road, a new pedestrian/ cycle link through existing green fields to the south of the Owenabue River, a new river crossing (pedestrians/ cyclists only) tying in with the existing part built roadway to the south of the soccer club.
- **2. Mountain Road Route:** Connects Mountain Road with the Kilnagleary Road providing good quality pedestrian and cycle connectivity across the southern part of Carrigaline. The route will feature of mixture of dedicated cycle facilities, traffic calming measures and new footpaths.

- **3. Ballea Road Route:** Connects the Westwood housing estate and the Carrigaline Soccer Club to the west of Carrigaline with the junction of Rock Road and Church Road to the east of Carrigaline. The route will include new and widened footpaths on both sides of the road in addition to dedicated cycle facilities along the entire route. The key junctions of Main Street/ Ballea Road and Church Road/ Bóthar Guidel Road will be upgraded to ensure high quality crossing points are provided for pedestrians.
- **4. Ballinrea Road Route:** Connects the new educational campus on Ballinrea Road with Bridgemount and the Rock Road to the east of Carrigaline. Works are currently underway to enhance the pedestrian and cycle network on the Ballinrea Road between the educational campus and the Cork Road which are supported by this Plan. The remainder of the route will be delivered via upgraded cycle and pedestrian facilities on Bóthar Guidel and improved footpaths through Bridgemount onto Rock Road.
- **5. Cork Road Route:** Connects Janeville to the north of Carrigaline with Foster's Hill to the south and runs along Main Street. The route will be delivered using a combination of dedicated cycle facilities along Cork Road where traffic flows are heavy and and there are increased speeds. On approach and along Main Street, the revised streetscape will provide a traffic calmed environment which will facilitate the integration of cyclists and motorists, with a key focus on Main Street on providing a new and enhanced environment for pedestrians. This includes measures to reduce traffic volumes and the introduction of a 30kph speed limit zone. Along Church Hill and Rose Hill, new footpaths and cycle lanes are proposed to complete this key central pedestrian and cycle route through the heart of Carrigaline. To provide a safe cycling environment on Church Hill, it is proposed to allow only south direction traffic, which will reduce traffic volumes on the route and to provide a northbound cycle lane.
- **6. Fernhill Route:** Connects the proposed new Fernhill Expansion Area to the east of Carrigaline with Church Road. The route will include the upgrading of the Rock Road to include new footpaths and cycle facilities while the active travel modes serving the Fernhill Expansion Area will be delivered as an integral part of the development of these lands.



Secondary Network

The proposed secondary pedestrian and cycle network provides connections from residential areas to the primary network, accessing key destinations including local schools. In total nine secondary links have been proposed. The secondary links are a combination of existing cycle facilitates, quiet pedestrian only connections, and proposed new upgraded facilities and connections.

- **A. Forrest Hill Route:** Connects the Kilmoney Road at Castle Heights with the Crosshaven Road via Kilnagleary Road and avails of the existing high quality cycle and pedestrians links along this corridor. This route already exists and although no work will be carried out on it, it will be incorporated into the overall cycle plan.
- **B. Lower Kilmoney Route:** Extends cycle facilities along Lower Kilmoney Road to connect with Main Street. The roadway will be upgraded to include footpaths and cycle facilities on both sides of the roadway.
- **C. Inner Western Relief Road Route:** Provides an alternative connection between Lower Kilmoney Road and Ballea Road for pedestrians and cyclists. The design of this road way has incorporated good quality pedestrian and cycle facilities. No additional works will be carried out along this route but the proposal will be incorporated into the overall cycle plan.

- **D. Waterpark Route:** Connects the residential district of Bridgemount with Waterpark and provides good access to a number of local schools. The roadway currently has footpaths on at least one side of the road and on-road cycle lanes. It is envisaged that these facilities will be upgraded to include dedicated pedestrian and cycle facilities on both sides of the road.
- **E. Westwood -Glenwood Route:** Connects the residential districts of Westwood/ Ballea Woods with Weston and Glenwood and provides access to Holy Well National School. The route currently is a mixture of estate roads and pedestrian footpaths and they will require some localised widening, the provision of improved crossing points and the additional of signage to highlight and improve safety of this route.
- **F. Dún Eoin Route:** Connects Ballinrea Road and the new educational campus with the Westwood- Glenwood Link via Dún Eoin. This link is currently a mixture of estate roads and pedestrian only footways which will require upgrading to provide for cyclists as well.

- **G. Carrigcourt Route:** Connects Ballinrea Road with the bus routes on the Cork Road via Carrigcourt. This link is currently a mixture of estate roads and there will be a requirement to provide a pedestrian/ cycle access within the existing boundary wall running along the Cork Road to improve accessibility to the bus stops on the Cork Road.
- **H. Heron's Wood Route:** Connects Cork Road with the Fernhill Expansion Area and the Carrigaline to Passage West Strategic Pedestrian and Cycle Route. The roadway currently has good pedestrian facilities and will be upgraded to include a good quality cycle environment through a combination of dedicated cycle facilities and traffic calming measures.
- **I. Janeville Route:** Connects Cork Road with the Fernhill Expansion Area and the Carrigaline to Passage West Strategic Pedestrian and Cycle route. The current and planned roadway has good pedestrian and cycle facilities to support the projected growth in active travel demands in this district.

Possible Feeder Network

A feeder network provides local connections from residential areas to both the primary and secondary network and greater permeability between residential districts.

A possible feeder network with 11 potential links has been identified for consideration initially. These feeder links focus on upgrading existing pedestrian facilities along established links and removing barriers to connectivity for active modes, such as improving public lighting and providing wider/new footpaths. It is acknowledged, as has been noted in a number of submissions, that the delivery of these feeder links can impact local residents significantly. Therefore, it is proposed as part of this Plan to engage with local residents and the wider community to ensure that all design and management issues are addressed in any subsequent planning application that will be brought through the statutory planning processes involving elected members. It is also acknowledged that the possible feeder network presented as part of this Plan may change during the implementation stage and that certain links may not be feasible. This will become apparent as individual routes and links are assessed and analysed in more detail.

- **1. The Southern Amenity Walk** supports locally generated trips along the southern boundary of Carrigaline connecting Mountain Road with the Crosshaven Road via Castle Heights and Forrest Hill. The primary infrastructure required along this route are continuous footpaths (which permit cycling particularly by children), improved public lighting and safe crossing points across all public roads.
- **2. The Maple Hill Link** will connect the Maple Hill housing estate (under construction) with Upper Kilmoney Road which is the key bus route in the area. There will be a requirement to provide a physical link between the new housing estate (Maple Hill) and the existing Ros na Gréine housing estate.



Figure Feeder Network

- **3. The Abbey View Link** currently exists and connects Upper Kilmoney Road with the Lower Kilmoney Road through Abbey View. The current facilities will be upgraded to include a new wider footpath and improved surfacing of the existing footpaths in the estate. In addition, there is scope to improve facilities as the pedestrian path is very steep as it connects with Lower Kilmoney Road. This area would benefit from enhanced public realm to highlight the pedestrian connection and could also remove the need for the secondary path.
- **4. The Liosbourne Link** also currently exists and connects Upper Kilmoney Road with the Lower Kilmoney Road. There is a short stepped section between Liosbourne and Maurland which would benefit from additional public lighting, improved pedestrian facilities on the Maurland side of the steps, and the provision of a cycle channel to assist cyclists travelling through the stepped area.
- **5. The Mount Rivers Link(s)** includes a number of existing pedestrian connections and a new pedestrian connection linking the Mount Rivers /Ardcarriag with the new Kilnagleary Link Road. The existing pedestrian footpaths would benefit from route widening, new surfacing and the provision of new and additional public lighting.

- 6. The Owenabue Road Link connects the partially built roadway to the rear of the Carrigaline soccer club with Main Street via the zoned lands to the west of the Main Street. The roadway to the west of the Western Inner Relief Road already has pedestrian facilities while the required pedestrian infrastructure needed east of the relief road will be subject to the development proposals for these lands. However a key principle will be the delivery of a high quality pedestrian route connecting Main Street with the Relief Road at its junction with the Owenabue Road.
- **7. The Old Waterpark Link(s)** consists of a number of pedestrian connections in the Old Waterpark area including the existing pedestrian only connections onto Bóthar Guidel and the Cork Road in addition to the connections back to Main Street via the street opposite the Garda Station and back towards the Owenabue car park. Each of these links currently exist however they would benefit from the following:
- The provision of pedestrian facilities on Station Road (potentially shared facilities to limit impact on properties)
- The upgrade of the pedestrian link between Cork Road and St Philomena's Place to include additional public lighting and resurfacing
- The upgrade of the pedestrian link between Bóthar Guidel and St Philomena's Place to include additional public lighting, resurfacing, vegetation removal and the provision of enhanced pedestrian facilities at the junction of Station road and St Philomena's Place.
- Widen the footpaths along Old Waterpark and manage the encroachment of parked cars through the installation of bollards where required.
- Remodel the section of roadway opposite the Garda Station to remove the existing narrow footpath and handrail, redesignate the street as a pedestrian priority street.
- For the section of street leading to the Owenabue car park redesignate the street as a pedestrian priority street and stop cars from parking here.

- **8. The Weston Link** connects the Highlands and Weston with the Ballea Road primary cycle route and the Westwood to Glenwood secondary cycle route.
- **9. The Dún Eoin Link** connects the Dún Eoin Housing estate with Westwood and onwards to the Ballea Road primary route and Westwood to Glenwood secondary route. The delivery of this link will require the construction of a new footpath between the two housing estates and the upgrade to a number of footpaths and crossing points within the Dún Eoin housing estate.
- **10. The Waterpark Link(s)** connect the Waterpark residential districts with the Fernhill primary route and the Waterpark secondary route. The majority of these links have footpaths however there is a requirement to upgrade the facilities along Rockboro Heights and the connection back to Castle Hill. In addition, a new pedestrian connection is required between Rockboro Heights and An Clós, which will require some ramping and steps due to the level change in this area.
- **11. The Rock Road Link** currently has pedestrian demands generated by the neighbouring housing estates and this demand is expected to increase significantly with the delivery of the Fernhill Expansion Area. There is a requirement to provide footpaths on both sides of this roadway to serve both existing and future pedestrian demands.



Supporting Measures for Active Modes

Bicycle Parking: Bicycle parking will be provided and/or upgraded near bus stops and key destinations such as the town centre, public parks, schools, shopping areas, playing pitches and large employment centres.

Permeability and Wayfinding: Permeability is a key constraint for cyclists and pedestrians in Carrigaline and the proposed pedestrian and cycle network has provided the links between residential areas and/or workplaces encouraging a greater uptake via active modes by providing more direct routes. To support this pedestrian/ cycle network, a signage programme is proposed to highlight the alternative routes available to residents and visitors. . As a general objective of this Plan the principle of providing enhanced permeability within the existing built-up area and within any new development zones will be pursued.

Street Design Principles: The upgrade of the street network in Carrigaline will be carried out in accordance with the latest design guidance contained in both the National Cycle Manual and the Design Manuel for Urban Roads and Streets. The following key principles will inform the re-design of the existing infrastructure as part of the Carrigaline TPREP:

- Preferrable lane widths are 3.00 m with maximum lane widths of 3.25 m allowed
- Generally, in urban areas uncontrolled right turn lanes should not be provided for without clear justification;
- Provide pedestrian crossings on all junction arms and allow pedestrian cross in one stage of the traffic lights;
- Remove left turn slip lanes; where vehicular demands are high controlled left turn lanes with tight turning radii will be permissible;
- Where traffic demands permit reduce the cycle times to 90 seconds or less to improve pedestrian accessibility;

- Ensure the design of cycle facilities meets the requirements of all members of society both young and old.
- At junctions, corner radii should be kept to a minimum to ensure reduced crossing distances for pedestrians.
- Existing high capacity roundabouts in the town will be either replaced with signalised junctions or modified to a more compact pedestrian and cycle friendly design.
- The delivery of the active and sustainable travel interventions should support increased biodiversity and limit the impact on existing trees (where possible).

Public Realm: The quality of the pedestrian environment is an important characteristic which influences residents, commuters, tourists and shoppers in their choice of destination and main mode of travel. The focus of rejuvenating Main Street through the creation of a new town square and the reallocation of road space to pedestrians will provide the catalyst for change in the town with respect to mobility and well-being. The new town centre will attract more residents by active modes to enjoy the town's key attributes which includes the Owenabue River, shops and cafes on the Main Street, and the chance to meet others in a busy town centre.

Traffic Management: Within the town centre area, there is a focus on improving and prioritising the pedestrian network to encourage the rejuvenation of the Main Street, accommodate the movement of people between places and to cater for people with mobility impairments. On the approaches to the town centre, key junctions will be upgraded to ensure pedestrians and cyclists are provided with safe and convenient crossing locations, many of these upgrades will include the installation of traffic signals. Modified roundabouts and stand-alone pedestrian crossings will also be installed as part of the delivery of this Plan.

"The quality of the pedestrian environment is an important characteristic which influences residents, commuters, tourists and shoppers in their choice of destination and main mode of travel."

Traffic Speed Management: The Carrigaline Transportation and Public Realm Enhancement Plan is focused on providing an attractive and safe environment for residents and visitors to Carrigaline. The management of traffic speeds within the study area is a key objective of the Plan. This Plan supports the provision of appropriate interventions throughout Carrigaline subject to their compatibility with the functionality of the receiving road/ street environment.

Universal Access: The design development of the Plan proposals will follow the principles of universal access to ensure equality in mobility and opportunities for all residents and visitors to Carrigaline.

Parking Enforcement: The success of the Plan will be dependent on the respect all users have for others they share the street/ road with. Enforcement of parking regulations and in particular, parking on footpaths/ cycle ways will be key to ensure the Plan delivers on its overall vision.

Pedestrian and Cycle Network Extension: The Carrigaline TPREP supports the extension of the pedestrian and cycle network to serve both existing and future residents subject to available funding and deliverability.





Public Transport Network

Public transport use in Carrigaline currently has a low mode share among workers at around 3%. Among students the modal share is much higher at 11%, reflecting the current service provision with Route 220 serving the numerous secondary schools within Cork city centre and the third level colleges located in the western suburbs of Cork. There are opportunities to expand the overall modal share for public transport within the town and as part of this Plan the key public transport objectives include:

- · Improve pedestrian accessibility to the existing bus services;
- Provide bus priority within Carrigaline where possible to help maintain scheduled services;
- Ensure that public transport services retain access to key destinations and support improvements in public realm
- Provide good quality bus stop infrastructure

The proposed public transport network is based on maintaining an efficient, reliable and attractive core bus service between Carrigaline and Cork City including key suburban destinations (i.e. Douglas, Bishopstown, Ballincollig). This core service will be supplemented by more local connections to Ringaskiddy, Cork Airport and Crosshaven. In terms of the Carrigaline Transportation and Public Realm Enhancement Plan, the existing bus routes including the 220, 225 and 225L are retained and will be monitored by the National Transport Authority and Cork County Council as the Plan is implemented.

The BusConnect Network Redesign Project has recently commenced. This project will carry out a review of current bus services and designing an improved Bus Service Network in the Cork Metropolitan Area.

The objective of BusConnect is to increase bus patronage and improve the efficiency of the overall bus network across the Cork Area. As part of this process, there will be consultation and the NTA intends to run an introductory session on the redesign with Cork County Council in the form of a workshop. The longer term development of the Carrigaline bus network will therefore be determined by the outcome of the Redesign project.

Bus Priority: To improve the attractiveness and reliability of the existing bus services on approach and through the town centre area, it is essential that public transport travels relatively unhindered by road congestion. Achieving this objective maintains high patronage and ensures that bus services remain financially viable. The Carrigaline Transportation and Public Realm Enhancement Plan has identified a number measures to improve the attractiveness of bus services. This includes the provision of dedicated bus lanes on Cork Road approaching Carrigaline, and traffic management measures, including bus only sections on Main Street to reduce traffic flows and to provide priority to bus services using this route.

The public transport priority measures have focussed on the northern and central areas of Carrigaline as these route sections experience the most impact in terms of delays to buses. On bus routes other than the central spine, additional bus priority measures and related bus enhancements will be considered, where appropriate, to facilitate service efficiency

Town Centre Interchange: The usage of public transport can be made more attractive and convenient by providing opportunities to transfer between bus services. It is proposed that Main Street will support this interchange potential, by providing high quality bus stop infrastructure along the street including shelters, real time information, seating and wider footpaths to accommodate larger crowds. With this supporting infrastructure in place, existing and future bus services can avail of the interchange opportunity on Main Street.

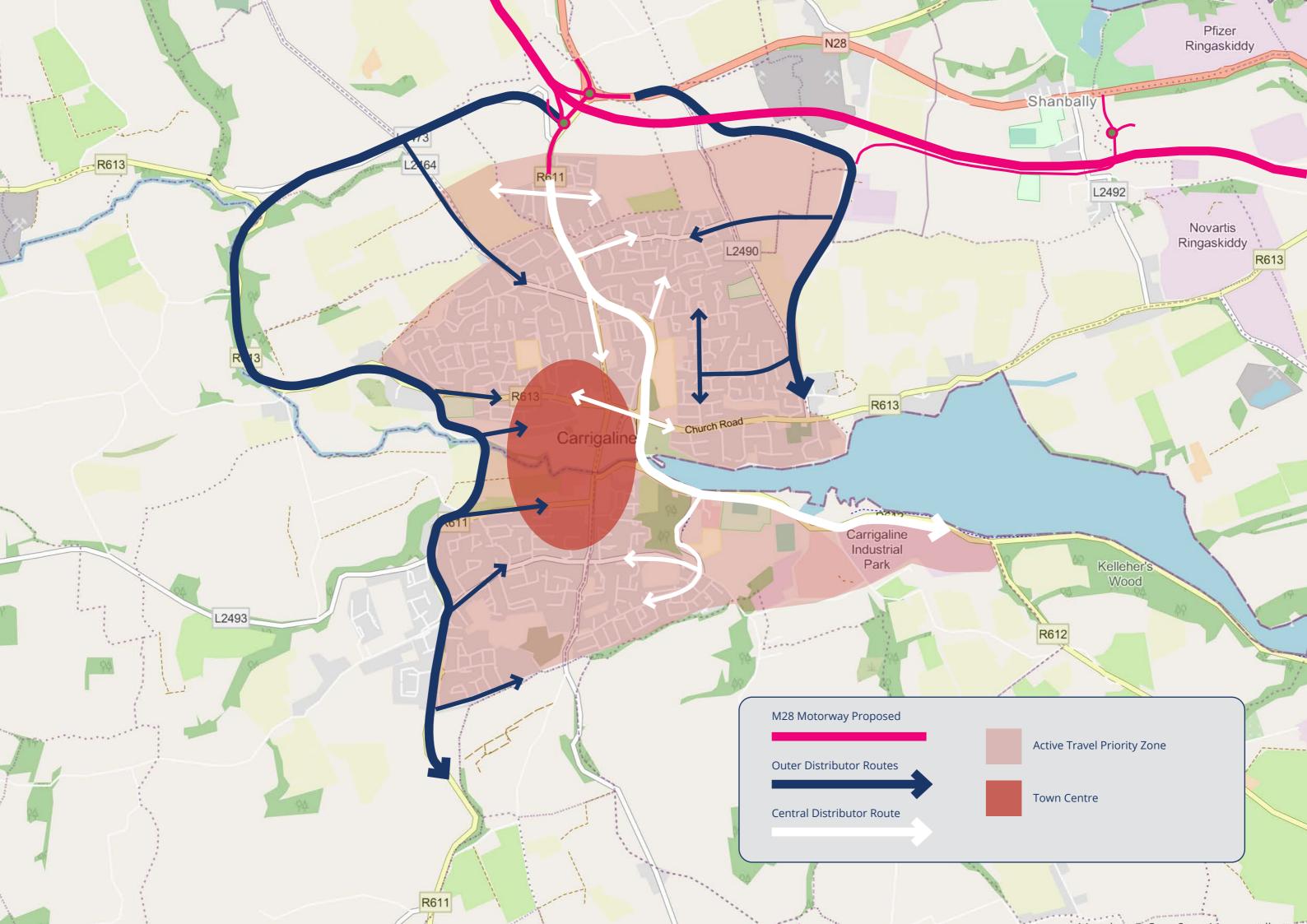
Supporting Measures for Local Public Transport

Local Mobility Hub: The provision of a local mobility hub within the existing Owenabue car park will provide an opportunity to interchange between the car/ bike and public transport modes serviced from Main Street. The Owenabue local mobility hub is not proposed to accommodate long stay car parking but to function as a drop-off location as well as providing good quality bike parking, taxi bays and dedicated car sharing facilities (when required in the future).

Local Park and Ride: To further enhance the attractiveness of the bus routes serving Carrigaline it is proposed to introduce a local park and ride on the northern outskirts of the town. This park and ride will allow those in the wider hinterland access to regional bus services. It will also replace some of the informal long stay parking that is currently occurring in the town centre and within other residential areas associated with the existing bus services travelling towards the city centre.

Additional Public Transport Services: The provision of additional and enhanced bus services is supported by the TPREP. These services will both connect the wider hinterland to Carrigaline and provide the residents and employees of Carrigaline with greater route and service opportunities to the wider Cork area. The TPREP has identified bus priority infrastructure which will ultimately support the National Transport Authority's BusConnects Network Redesign Project, which is aimed at increasing bus patronage and improving the efficiency of the overall bus network across the Cork Area.

Bus Stops: Provide high-quality bus shelter facilities including seating, information panels with real-time information displays, with a standardised bus stop pole style (and secure cycle parking where appropriate). Particular care with respect to bus stop locations and facilities will be provided for with the proposed public realm works on Main Street, Carrigaline.







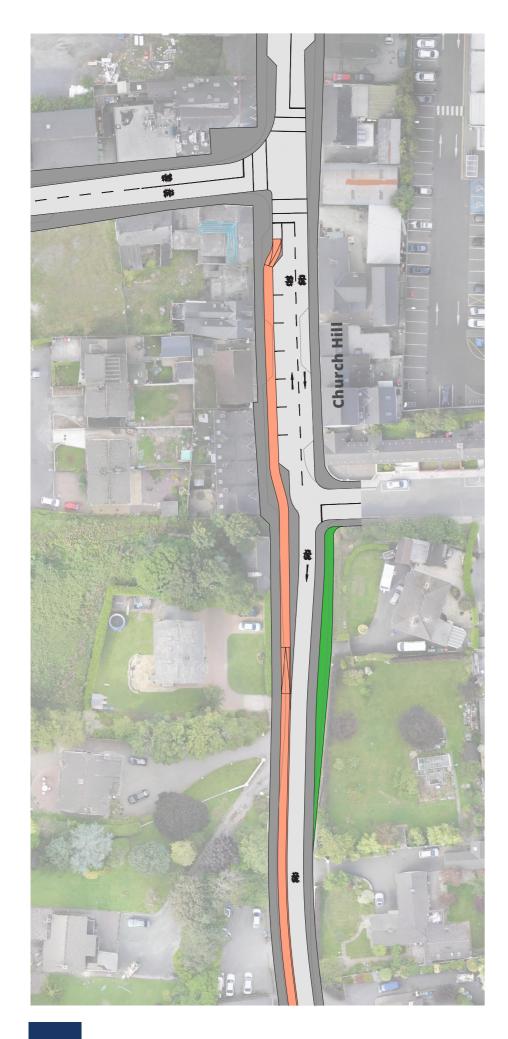
Traffic Management

Introduction

The Carrigaline Transportation and Public Realm Enhancement Plan aims to encourage longer distance trips currently using the central corridor (i.e. Cork Road and Main Street) to avail of existing roads to the east and west of Carrigaline. The Plan also aims to make use of existing transportation infrastructure spare capacity before proposing new infrastructure and thereby maximising the use of available assets in an attempt to maintain a sustainable approach.

This provides for the opportunity to afford active travel modes with sufficient space and capacity within the central corridors of the town. It also provides for essential vehicle trips along the central corridors, in particular access to Crosshaven via Bóthar Guidel. The following figure expresses the Plan at a strategic level and includes the following elements:

- Active Travel Priority Zone
- Outer Distributor Routes (availing of existing infrastructure)
- Central Distributor Route (availing of existing infrastructure)



One way section
Footpaths both directions
Counter flow cycle Lane towards Main street
30km zone



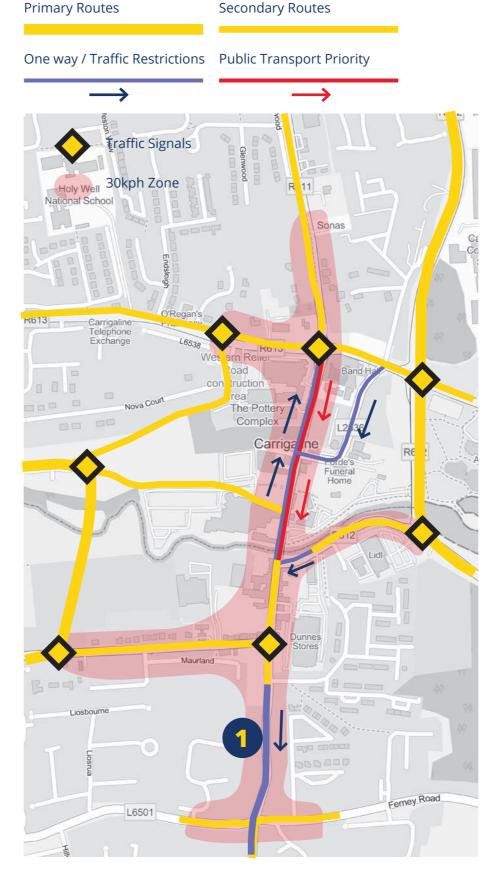
Traffic Management

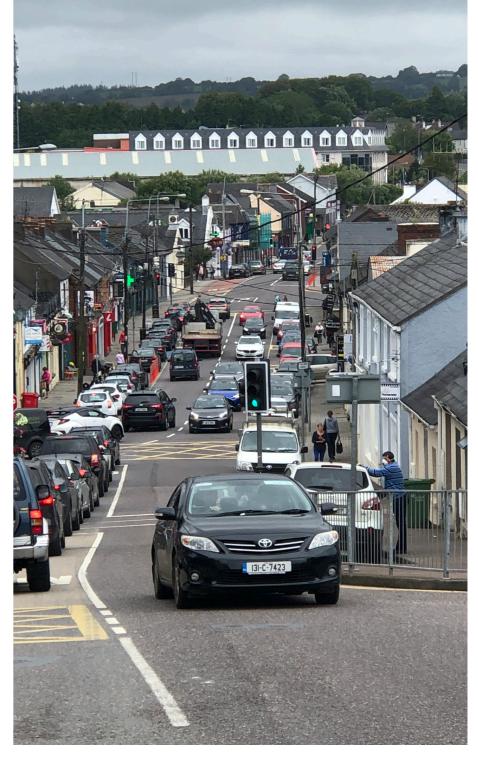
Active Travel Priority Zone

An Active Travel Priority Zone where pedestrians and cyclists will be catered for will be implemented. This will include upgraded and new facilities in addition to traffic calming and traffic management measures. The Active Travel Priority Zone will effectively improve the overall attractiveness of Carrigaline and particularly its town centre to pedestrians and cyclists.

The delivery of the Active Travel Priority Zone will require alterations in the management of traffic within Carrigaline Town Centre. These measures are required to ensure that an enabling environment in the town centre is created to deliver on the proposed public realm works for Main Street and to encourage access to the town centre by active travel modes. The key measures proposed for the management of traffic in the town centre include the following:

- New southbound bus lane between Ballea Road and Crosshaven Road. Access to properties on this section of Main Street will be either from Main Street (South) or Old Waterpark;
- One-way westbound traffic on Crosshaven Road approaching Main Street while two-way traffic is maintained as far as the entrance to the public library/ Dunnes Stores;
- One-way southbound traffic on Church Hill to allow for the provision of enhanced access by active travel modes;
- New traffic signal controlled junctions with enhanced facilities for pedestrians at the junction of Main Street / Church Hill and at Main Street / Ballea Road;
- The introduction of a new 30 kph speed limit for the core town centre and its approaches.





Traffic Management

Heavy Goods Vehicle Management

In terms of managing Heavy Goods Vehicles within the study area the key objective is to direct larger vehicles to use the outer distributor roads with signposting or retain HGV traffic on the central distributor road while traveling through Carrigaline. It is also proposed to restrict HGV traffic on Main Street except for those deliver to businesses or residents located on the street. The following figure presents the key HGV routes in the study area. While access to the other roads and streets will be permissible by HGV they will be actively encouraged to use the designated routes within the town.

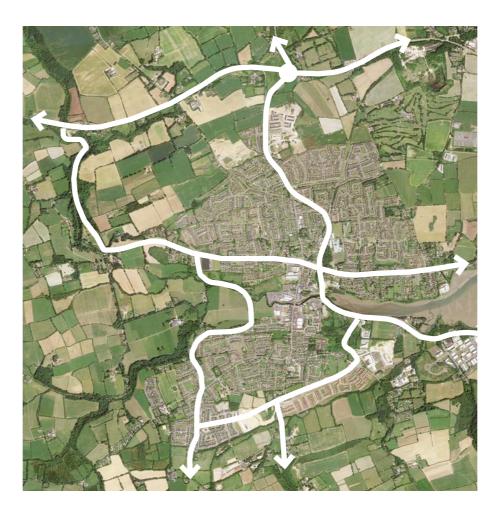
Safety Enhancement Schemes

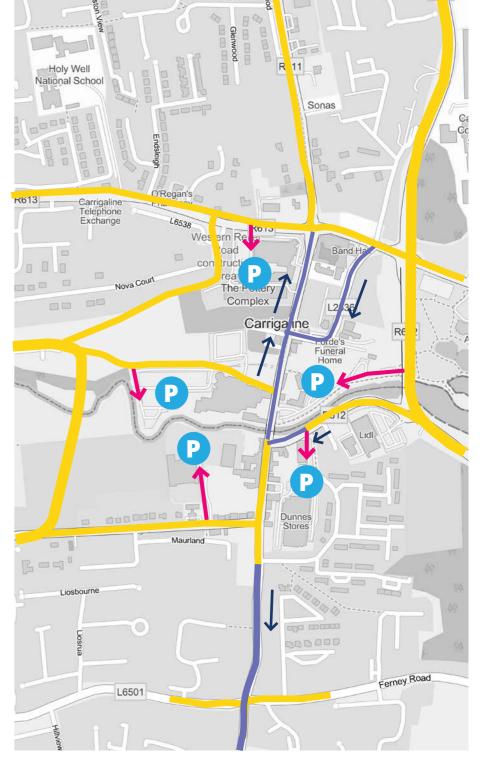
The Carrigaline Transportation and Public Realm Enhancement Plan supports the delivery of safety enhancement schemes within the study area. Safety enhancement schemes would include the provision of new pedestrian crossings, improvements in junction visibility, speed control measures, provision of double yellow lines, etc.. for example the junction of Bóthar Glás with Ballea Hill would benefit from a junction safety upgrade to better accommodate the current level of traffic activity on this roadway.

Parking

The supply and management of parking is fundamentally linked to the management of parking demand and the promotion of active and sustainable travel modes. As part of this Plan, it is proposed to reduce the dominance of car parking within the key public and community spaces, facilitating improvements in public realm, and to shift the emphasis from on-street to the use off-street parking spaces to ensure the continued economic growth of Carrigaline. The traffic management plan for the town centre provides good accessibility to the existing off-street parking in the town, however, it removes the need to use Main Street to access the bulk of the town's parking stock.

There are a number of large car parks [in private ownership] serving the town and its core retail/ community function. Over time it is likely that the development of these sites may see some reduction in the level of parking due to future stricter parking standards for new development. This reduction in parking will further promote access to the town centre by active modes but will need to be balanced to ensure accessibility is retained for those who cannot access town centre services without the need of a car.







Parking Management

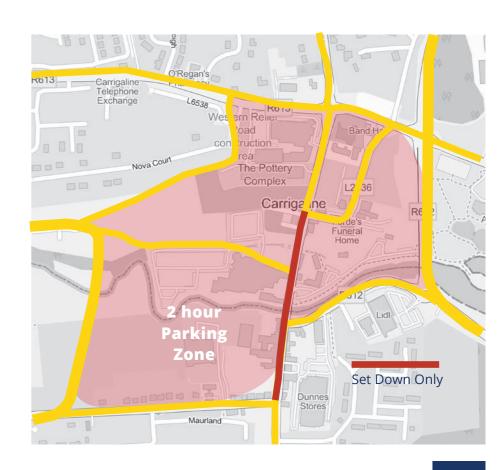
To deliver on the objectives of the Carrigaline Transportation and Public Realm Enhancement Plan, there is a need to manage the parking within the town and to ensure that the general public have access to both public and private parking spaces within Carrigaline. The following section presents the key elements of the parking strategy to serve Carrigaline. Having reviewed existing car parking stock available, its existing utilisation and the high levels of publicly accessible parking in private ownership, it is not proposed to introduce any pay parking regime in Carrigaline at this point in time. This Plan focuses on the management of the turnover of parking to ensure businesses and customers are provided with the right level of accessibility.

On Main Street, kerb side parking will be reserved for the following uses only:

- Set down spaces (< 15 mins), this will ensure a high turnover of parking within the heart of Carrigaline and ensure businesses are provided with optimum accessibility by all modes;
- Loading bays, to ensure businesses can be readily serviced from the street; and
- Parking Spaces for the Disabled and Age Friendly
 Parking for Older People, this will ensure that the
 facilities on Main Street are accessible by all.

For other on-street locations and public parking within the core of the town centre, parking should be restricted to 2 hours or less. In all other locations in Carrigaline, stays greater than 2 hours will be permitted. There may be a need to introduce a residential parking permit system in time to ensure residents within the new parking zones are provided with sufficient access to parking.

As previously noted, a new car park is proposed on the northern part of the town to support access to the bus services travelling between Carrigaline and Cork and this parking area will remove some long stay parkers within Carrigaline improving customer access to businesses in the town centre.





Traffic Management

Outer Distributor Routes: A total of 3 outer distributor roads are proposed as part of the Plan including a western, eastern and a southern outer distributor road. These routes primarily follow existing roadways and will be upgraded to improve their safety and operational performance. Depending on their location, these routes will also provide for pedestrian and cyclists as well.

1. Western Outer Distributor Road: The Western Outer Distributor Road follows along the existing Ballea Road as it travels west from the existing roundabout adjacent to the Carrigaline soccer club. The road will be strengthened, and resurfaced as required and realigned to improve safety, taking account of the constraints along the route. It is proposed to provide a new roundabout at the junction of Ballea Road and the Ballinrea Cross Road opposite Cork County Council Water Services facility to enhance safety at this location.

Similar to the Ballea Road, the Ballinrea Cross Road will be strengthened and resurfaced. In addition, the eastern section of the route will be realigned on approach to the new M28 Motorway Interchange to improve safety along this section of the route. Finally, the Ballinrea Cross junction itself will be upgraded to improve safety at this location.

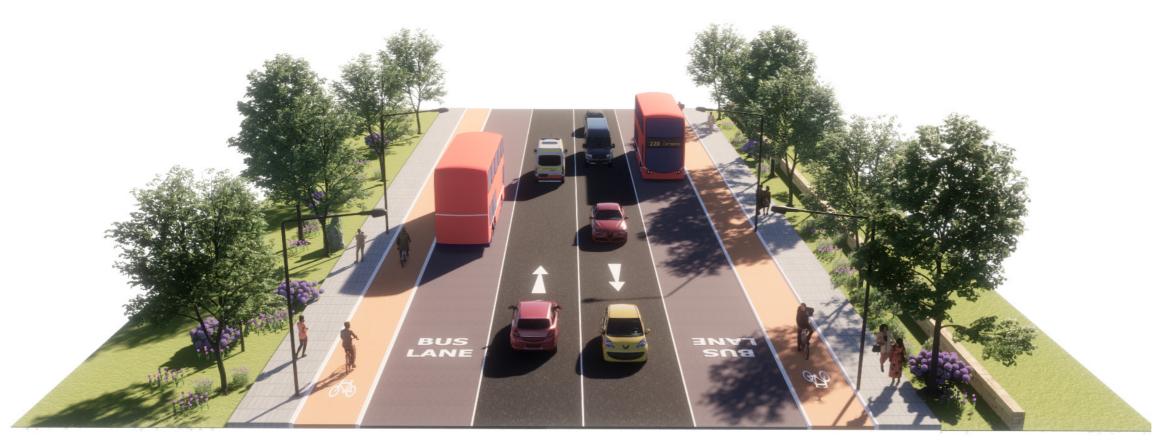
2. Eastern Outer Distributor Road: The Eastern Outer Distributor Road utilises the existing Ringaskiddy Road for a section between the Shannonpark Roundabout and Rock Road. Following the construction of the M28 Motorway, it is envisaged that there will be significant traffic relief on this section of the Ringaskiddy Road. The Eastern Outer Distributor Road follows a section of the existing Rock Road as far as the proposed M28 Overpass and this section of Rock Road will need to be realigned to provide for the proposed strategic pedestrian and cycle route that will extend along this road connecting Carrigaline with Passage West.

In tandem with the delivery of a mixed-use development within the Fernhill Expansion Area, a new distributor roadway is proposed around the lands. The alignment of this route will ensure that the development of the Fernhill Expansion Area is focused on active travel modes while also providing the necessary distributor road function for the town of Carrigaline. The route of the distributor road then follows a section of the existing Coogan's Lane which will require modifications to ensure its safe operation and that it will cater for the potential increase in pedestrian demands on this roadway following the build out of the Fernhill Expansion Area.

Finally, the Eastern Outer Distributor Road re-joins the existing Rock Road as it approaches Church Road, again this roadway will be strengthened and resurfaced to provide for all modes. A new traffic signal controlled junction is proposed for the existing junction of Rock Road and Church Road with the particular aim to provide greater priority for traffic travelling between Rock Road and Church Road over traffic arriving from Ringaskiddy. The delivery of traffic signals will support Rock Road's function as an Outer Distributor Road.

The Eastern Outer Distributor Road will be supported by new local access roads through the Fernhill Expansion Area connecting with Heron's Wood and Janeville. In addition, access to and from the existing Rock Road onto the Eastern Outer Distributor Road will be restricted to ensure Rock Road becomes the focus for active travel between the Fernhill Expansion Area and the neighbouring residential districts.

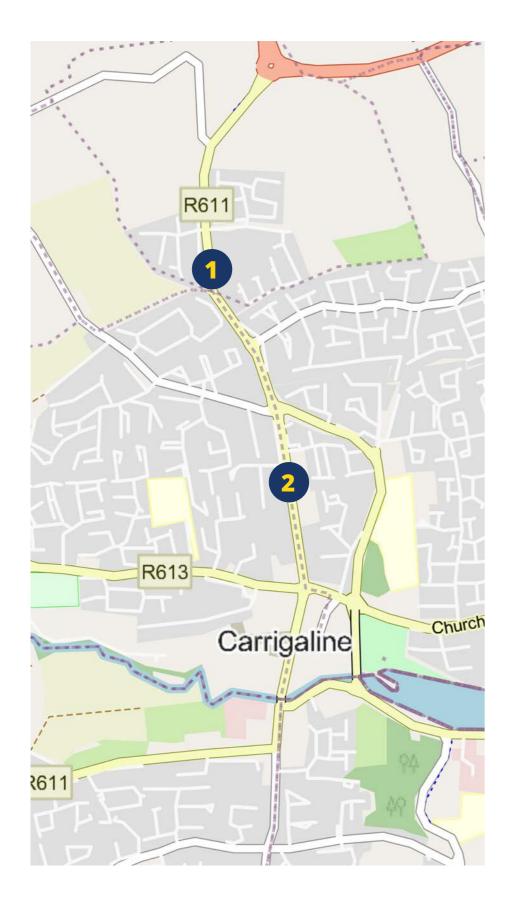
3. Southern Outer Distributor Road: The Southern Outer Distributor Road is a new road providing an additional route around the town centre. The proposed Southern Outer Distributor Road is a long term objective at this stage and will be considered when the impact of the Inner Western Relief Road is known and following a review of the Cork County Development Plan in 2028. The alignment of the new roadway connects Kilmoney Road to the south of Castle Heights with Ballea Road to the west of the existing built area. The new roadway includes for a roundabout junction on Forrest Road but it is not proposed to connect either Mountain Road or Captain's Boreen into the new roadway as these roadways are not capable of carrying any additional traffic which would be generated by the delivery of the Southern Outer Distributor Road.



Bus lane both directions
Footpaths& cycle lanes
both directions



Bus lane city direction
Footpaths & cycle Lanes
both directions



Traffic Management

Central Distributor Road

The Central Distributor Road travels along Cork Road from the new M28 Interchange as far as its junction with the Ballinrea Road where it then follows the Eastern Bypass (or Bóthar Guidel) and after crossing the Owenabue River the route follows along Crosshaven Road. This route is the busiest in Carrigaline and serves both long and short distance vehicular trips. The route is in demand by all modes resulting in congestion for general traffic and buses. It is also a challenging environment for pedestrians and cyclists.

This route will provide access for general traffic as well as active and sustainable modes. Measures are proposed to reduce traffic on the central distributor route by increasing the attractiveness of the outer distributor routes, providing alternative routes to the central route. It is acknowledged that some traffic will have to be accommodated on this route including traffic from Crosshaven Road and traffic with destinations in the town centre.

The key upgrades along this route will focus on active and sustainable travel modes while securing and improving the overall operational performance of the network. The key improvement measures include the following:

- Enhanced pedestrian crossings at all major junctions along the route;
- The provision of continuous cycle facilities along the entire length of the route;
- The provision of a new pedestrian/ cycle bridge over the Owenabue River;
- The provision of dedicated bus lanes on Cork Road between the M28 Interchange and the Ballinrea Road;
- Upgrading the junction of Cork Road/ Ballinrea Road to ensure priority is assigned to the Central Distributor Route. This upgrade will follow a review of the current pedestrian/ cycle enhancement currently underway at this location;
- Future upgrading of the junction of Bóthar Guidel and Crosshaven Road to ensure priority is assigned to the Central Distributor Route;
- Upgrading the junction of Church Road/ Bóthar Guidel to provide an extended right turn lane and enhancements to the pedestrian/ cycle facilities at this junction.

Complementary Measures

Smarter Mobility

Smarter Mobility can be described as the way intelligent transport services are changing the functioning of urban areas. Intelligent Transport Solutions (ITS) use technology to increase efficiency, safety and co-ordination across transport networks. As travel demand in Carrigaline grows there is a need to further embrace technology to support this increase in demand.

As part of the Carrigaline Transportation and Public Realm Enhancement Plan, the following Intelligent Transport Solutions are proposed to improve the overall operation of the transport network:

- The creation of an Urban Traffic Management Centre for Carrigaline to include the active management of traffic signals through a combination of CCTV, detection and fault monitoring at various junctions within the town;
- The provision of Real-Time Passenger Information at bus stops throughout the town; and
- Enforcement of red light running and parking restrictions.





School Travel Plans

School travel is a critical factor affecting transport in Carrigaline. School trips by car are a substantial contributor to local congestion and have a significant impact on travel times by all modes. In many instances, a trip to a school site to drop off children coincides with a different trip entirely, usually a journey to work, and as a result it is challenging to influence this trip type. However there are many short school trips carried out in Carrigaline that could transfer to active travel modes should the right environment be provided to allow these trips to be carried out safely and conveniently. The Carrigaline Transportation and Public Realm Enhancement Plan aims to provide this network to encourage active travel and this programme of works needs to be supported by a wider range of measures including:

- Behavioural change programmes which encourages students and schoolchildren to travel to school by modes other than the car;
- Permeability improvements targeted at walking and cycling modes, improving accessibility to the bus network, and also minimising excessive routing for those who wish to walk or cycle to school; and
- Promotion of school travel plans, and participation in the Green Schools Travel initiative;

Land Use Integration

The integration of land use and transportation is essential in creating sustainable urban living. The alignment of settlement and land use patterns to an integrated transportation strategy can provide opportunities to reduce car dependency and allow for greater investment in alternative means of travel including public transport, walking and cycling. It also delivers considerable benefits in terms of reduced congestion, reduced greenhouse gas emissions, enhanced health and wellbeing and has benefits for the public realm.



In the context of the Carrigaline Transportation and Public Realm Enhancement Plan, the consolidation of sustainable residential neighbourhoods, where the reliance on private transport is reduced and where services are provided locally, allowing access by walking and cycling, is promoted. The consolidation and concentration of development reduces travel demand, allows for the effective provision of services including public transport, and enables more sustainable patterns of travel.

The delivery of mixed-use type developments including employment uses is supported by this Plan. Currently, Carrigaline has a low employment to population ratio, resulting in residents needing to leave the town to seek employment opportunities. The transportation measures outlined in this plan would be supported by the delivery of increased employment opportunities in Carrigaline.

The following land use principles are therefore intended to guide development in Carrigaline:

Land Use Planning Principles

- Trip intensive developments, such as retail, should be focused within the existing town centre;
- Additional employment zoned lands are required within the built-up area of Carrigaline to aid the modal shift from car to active travel modes;

- All non-residential development proposals should be subject to maximum parking standards to manage traffic demands and encourage access by alternative modes;
- For all major employment developments and all new and extended schools, travel plans should be conditioned as part of planning permissions and be carried out in a manner consistent with existing NTA guidance;
- The masterplanning of key sites within the study area should promote walking, cycling and public transport by maximizing the number of people living within walking and cycling distance of their neighbourhood or district centres, public transport services, and other services at the local level such as schools;
- New development areas should be fully permeable for walking and cycling and the retrospective implementation of walking and cycling facilities should be undertaken where practicable in existing neighbourhoods, in order to give competitive advantage to these modes;
- Where possible, developments should provide for filtered permeability. This would provide for walking, cycling, public transport and private vehicle access but at the same time would restrict or discourage through trips by private car; and
- To the extent practicable, proposals for right-of-way extinguishments should only be considered where these do not result in more circuitous walking and cycling trips for local residents accessing public transport or local destinations.



Complementary Measures

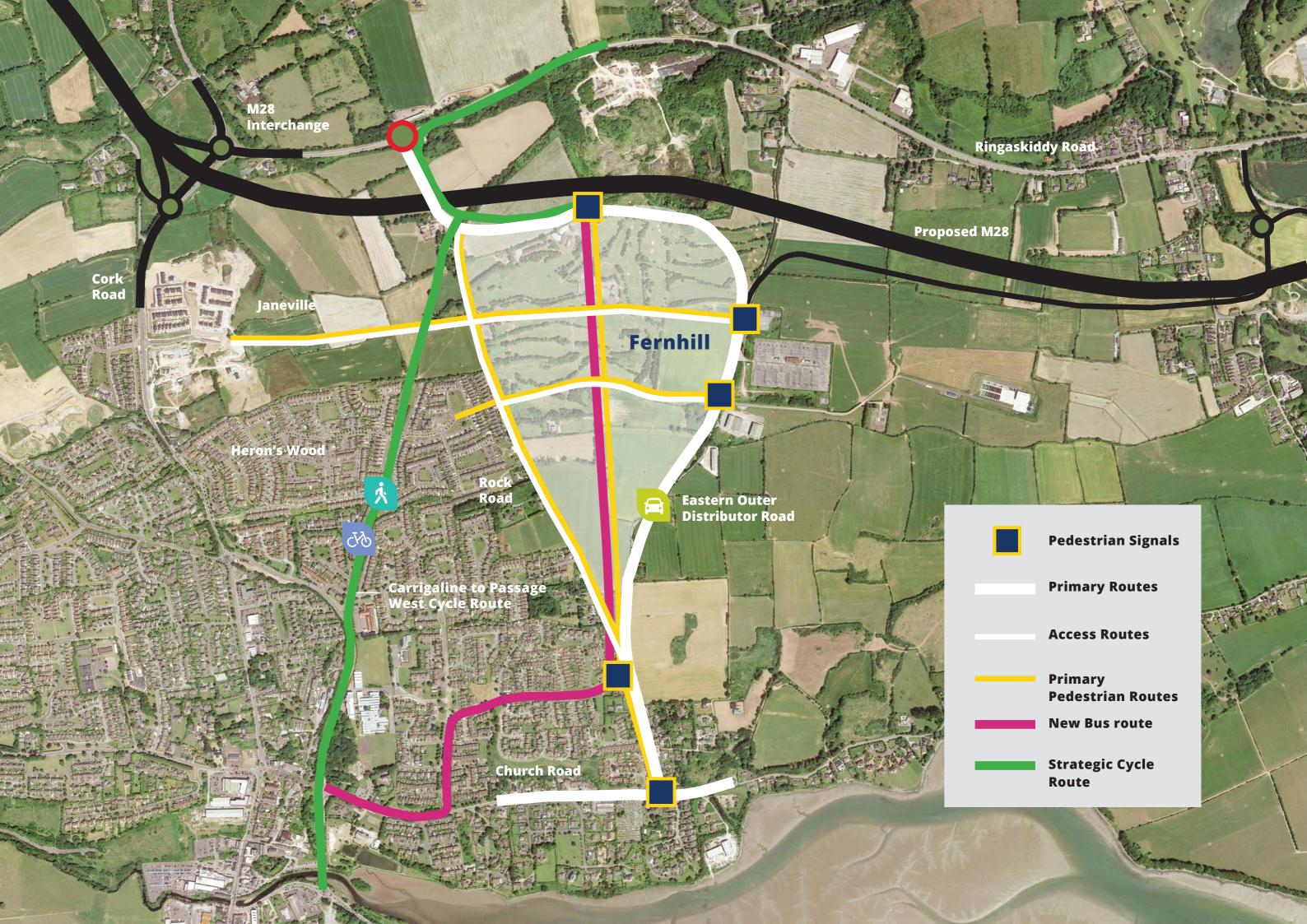
Town Centre Expansion Area

The lands between Main Street and the Inner Western Relief Road provide a significant opportunity to expand and enhance the town centre through the delivery of mix use developments. These lands are located in the centre of Carrigaline and are in the optimum position to avail of the investment in active and sustainable travel modes proposed as part of this Plan. The density of development should be set to take account of this accessibility, with higher density development encouraged within these sites. In addition, parking provision should be based on revised parking standards at the appropriate level to encourage maximum accessibility by sustainable modes. The types of developments should be mixed use in nature and the size and scale of any proposed buildings should support the active travel focus for the town centre.

A strategic level mobility plan is presented for the subject lands below, however it is recognised that the development lands will be subject to a more detailed masterplan and site analysis which should include the following key accessibility principles:

- High degree of pedestrian accessibility from Main Street at multiple locations;
- The provision of appropriate public parking within the Town Centre Expansion Area;
- Provision of public amenity space within the town expansion area;
- The delivery of the Crosshaven Road Greenway through the development sites to the south of the Owenabue River;
- Primary access to the lands from the Inner Relief Road with secondary access permissible from Lower Kilmoney Road; No vehicle access permissible from Main Street (with the exception of the existing access to Supervalu);

"The types of developments should be mixed use in nature and the size and scale of any proposed buildings support the active travel focus for the town centre."



Complementary Measures

Fernhill Expansion Area

The Cork County Development Plan has identified the area to the north east of Carrigaline as a key expansion area to accommodate the growth within the town to meet their requirements under the National Planning Framework. The delivery of the 'Fernhill Expansion Area' has been integrated into the Carrigaline Transportation and Public Realm Enhancement Plan both in terms of the transport network needed to accommodate the development of these lands but also the land uses that would be complementary to the delivery of the Plan's objectives in terms of managing future travel demands.

A strategic level mobility plan is presented for the subject lands below, however it is recognized that the development lands will be subject to a more detailed masterplan and site analysis which should include the following key accessibility principles:

- The provision of a primary pedestrian/ cycleway running centrally within the expansion area to support a combination of uses, including residential, community, and employment;
- A new city centre bus service routed centrally within the expansion area supported with dedicated bus priority, serving adjacent residential areas as well;
- A high degree of permeability to neighbouring residential districts (i.e. Janeville, Heron's Wood, Bridgemount, and Waterpark);

- Possible active mode linkage to Ringaskiddy by extending the primary link through Heron's Wood and Fernhill further to the east;
- Upgrade to the alignment and pedestrian facilities along Rock Road;
- Provision of public amenity space within the expansion area;
- New Eastern Outer Distributor Road providing an alternative route to Cork Road and providing good access to the expansion area. This new distributor road will avail of the capacity on the existing Ringaskiddy Road following the construction of the M28 Motorway; and

Behavioural Change

Behavioural change, as it applies to transport, is about making people aware of the range of travel choices available for the variety of trips which they make on a daily basis and encouraging the use of more sustainable travel choices where feasible. Measures to encourage this involve the targeted promotion of public transport, walking, cycling and car sharing as alternatives to single occupancy private car use. They can be implemented at various locations and at varying scales, e.g. workplaces, schools and neighbourhoods. They comprise a highly personalised approach aimed at engaging a group of people, making them think about their travel choices, providing them with full information, and encouraging and incentivising the use of alternatives.

"Measures to encourage this involve the targeted promotion of public transport, walking, cycling and car sharing as alternatives to single occupancy private car use."

In recent years, fostered by the Government's Smarter Travel policy document, and supporting initiatives and work undertaken by a number of agencies, increased emphasis has been placed on capturing the benefits that such programmes can deliver. The National Transport Authority is responsible for the management of the Smarter Travel Workplaces and Campuses Programme and administers the Green Schools Travel Module on behalf of the Department of Transport.

Behavioural change initiatives will continue to be promoted in Cork by both Cork County Council and the National Transport Authority in order to encourage the use of sustainable travel modes. This will assist in creating welcoming streets and places for its residents and alleviate the challenges associated with the negative impact of car traffic on our environment and communities.

Feedback from 2nd Round of Public Consultation

Introduction

The second round of public consultation took place over a three week period between 24 May to 14 June 2021. The objective of the second round of public participation was to provide the opportunity to public to comment on the draft Carrigaline TPREP report which outlined the proposed transportation and public realm strategy for Carrigaline. As with the first round of consultation, the second was caried out on-line and was facilitated by developing a virtual room which public was able to visit. Public was invited to visit the website: https://www.corkcoco.ie/en/traffic-transport/carrigaline-transportation-and-public-realm-enhancement-plan.

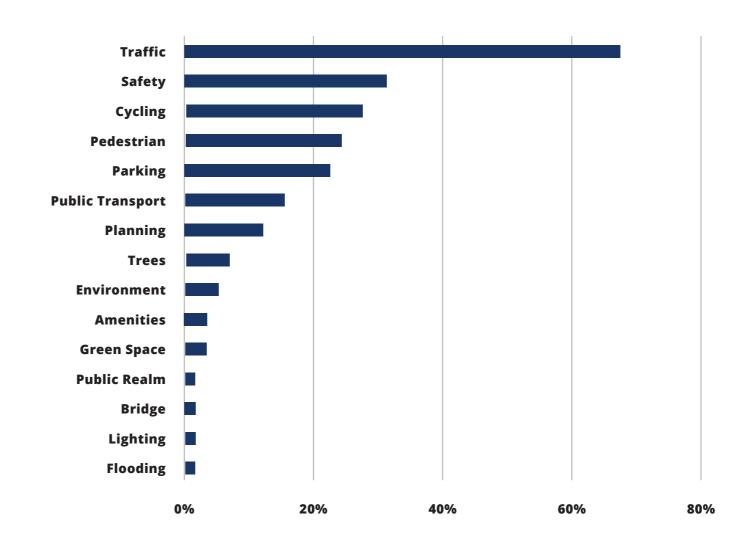
Response to the Public Consultation

The public consultation process attracted substantial attention in the media. These include the following:

- 59 submissions were received including 44 from public, 8 from interest groups, 2 from elected members and 4 from businesses / developers.
- There were 1,626 web page views;
- 76,876 impressions reaching 33,279 people;
- The Facebook advertisement received 76,872 impressions and 1,093 link clicks.

Themes recorded from submissions

All 59 of the submissions received were reviewed and the issues raised were categorised, summarised, and analysed. A total of 15 main themes were identified during this review process. The frequency of each of these themes is presented. Note that a submission may contain multiple themes, and so the total frequency is higher than the total number of submissions. As with the first round of consultation traffic was the most frequent theme with safety, cycling, pedestrians, public transport featuring regularly in the submissions



Key Issues raised:

The following section presents the key issues raised, and the public consultation report included for in the Appendix to this report provides a response to these issues.

Traffic:

- Provision of a new bridge crossing to the east of Carrigaline
- Bring forward the implementation of the Southern Outer Distributor
- Upgrade Forrest Road and Bóthar Glás Road
- Retain Church Hill's two-way status
- Pedestrianise Main Street
- Traffic calming on Forrest Hill

Safety

- Remove the Carrigaline to Passage West Strategic Cycle Facility from the Plan
- Provided improved footpaths on Rock Road as it is narrow and unsafe
- Provide improved footpaths on Church Road
- Upgrade the Ballinrea Crossroads to coincide with the opening of the educational campus

Cycling

- Provide segregated cycle facilities on Main Street
- Remove, Route 11 from the Feeder network between Heron's Wood and Heatherfield
- Provide segregated cycle facilities over on road cycle lanes
- The Modal Share targets for walking and cycling should be higher

Pedestrians

- Move the proposed toucan crossing between the Janeville and Herons Wood to better serve the northbound bus route on Cork Road.
- No pedestrian improvements proposed for Upper Kilmoney Road, Ferney Road and Fuchsia Avenue
- Link housing estates to one another as this is the cheapest investment rather than building more roads.
- Introduce 30kph zones in residential estates

Parking

- Parking for the mobility impaired should be retained on Main Street and within car parks;
- There is a risk that existing retail parking will come under more pressure with the proposed removal of on street parking on Main Street;
- Any parking removed within Main Street needs to be replaced elsewhere in the town.

Public Transport

- · Provide a bus stop shelter on Main Street at the Bridge;
- Provide a Carrigaline to Passage West bus route running every 15 minutes;
- The proposed Park and Ride should include EV charging points and secure bike parking;
- Provide a one directional circular bus system for the town;
- Provide a bus route from Minane Bridge to Carrigaline;

Other Issues

- The owners of the Fernhill golf course requested that any proposals on the land and phasing are indicative and subject to further masterplanning;
- Remove the public park provision from the Dairygold site;
- Dunnes Stores is concerned about a possible loss in business due to the proposed one-way system on both Crosshaven Road and Main Street.
- The proposed one-way system will impact on emergency services within town
- Reference car pooling in the Plan;
- Lee to Sea: Bring the implementation of the Carrigaline to Passage West Cycle Route forward to be delivered in the short term:
- The proposed Park and Ride should be a short term objective
- Introduce biodiversity planting in the design of the new transport interventions.

Section 4 Transportation Network

Feedback from 2nd Round of Public Consultation

Proposed Amendments to the Plan

Each of the submissions was reviewed in the context of finalising the Plan and the following are the substantial amendments proposed for the Plan:

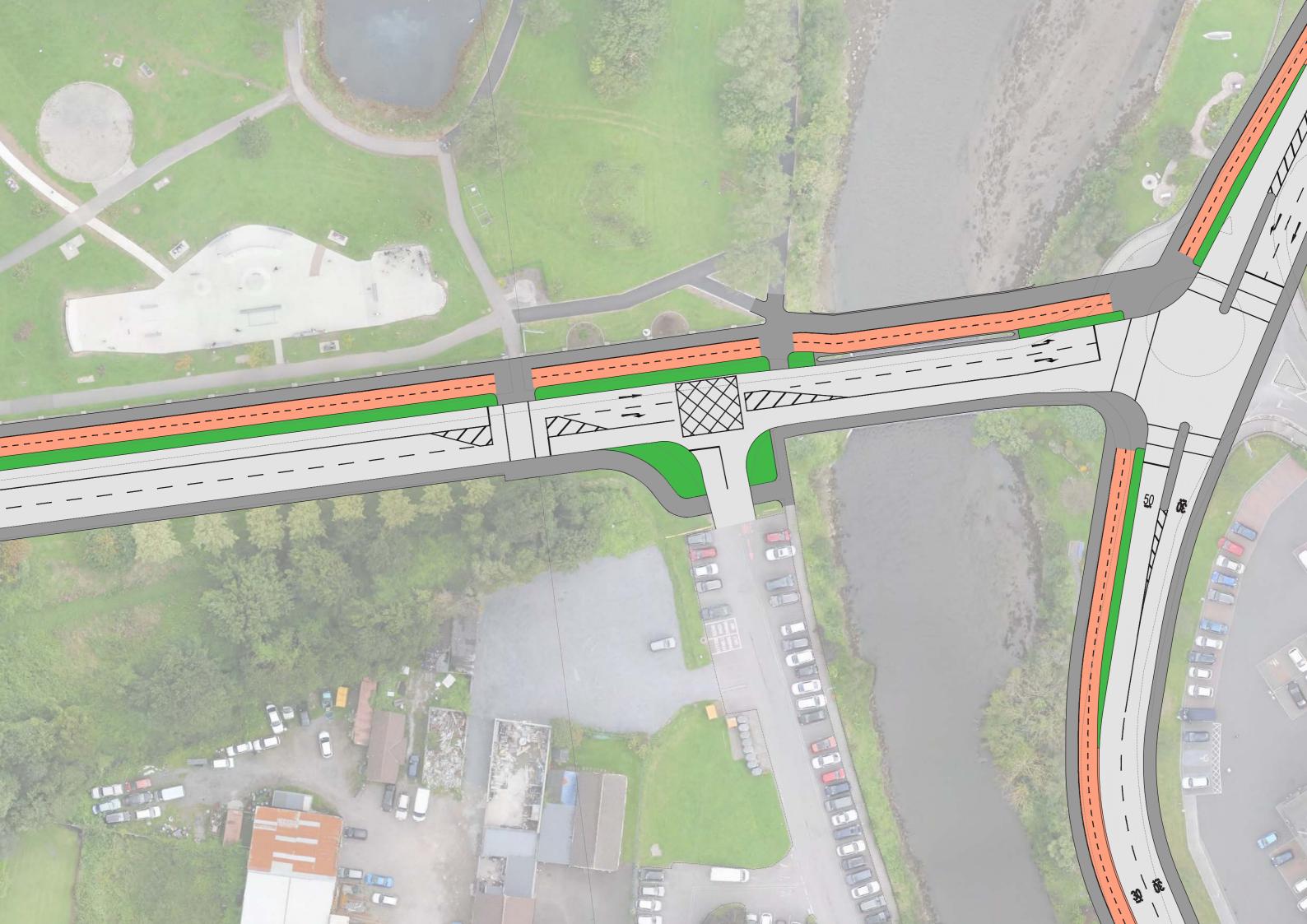
- The inclusion of an objective to manage traffic speeds in the study area i.e. speed bumps, raised tables, warning signs, etc.;
- 2. The inclusion of an objective of this Plan to provide enhanced permeability within the existing built-up area and within any new development zones;
- 3. The inclusion of street design principles which are progressive towards pedestrian and cycle safety and allows for pedestrian and cycle friendly roundabouts;
- 4. The inclusion of an objective to support the extension of the pedestrian and cycle network to support new and existing residential communities;
- 5. The inclusion of support for the provision of additional and enhanced bus services both connecting the wider hinterland to Carrigaline and providing the residents and employees of Carrigaline with greater route and service opportunities to the wider Cork area;

- Design of Main Street to consider positive speed control measures and enhanced bus stop infrastructure at design stage;
- 7. The delivery of the Feeder network will require consultation with residents and the wider community before bringing through any statutory planning process with elected members;
- 8. The provision of safety enhancement works along Bóthar Glás to cater for current traffic flows;
- 9. The details in the Expansion Zones are indicative only and subject to further masterplanning and site analysis but the transport principles presented need to be engaged with;
- 10. The provision of appropriate public parking within the Town Centre Expansion Area;
- 11. Parking on Main Street to provide for the mobility impaired; and
- 12. Amendments to the implementation plan to allow for a review of the Plan to coincide with a review of the Cork County Development Plan in 2028.









Introduction

The Carrigaline Transportation and Public Realm Enhancement Plan (TPREP) has reflected on Cork County Council's future vision for the town up to the horizon year 2040 and is intended to align with the National Planning Framework. This approach will aim to ensure that the emerging strategies remain robust beyond the lifetime of the forthcoming Cork County Development Plan 2022 -2028.

The implementation of this Plan, with the help of funding from the National Transport Authority for those measures identified for implementation in the short term, will be town centre focused with an emphasis on enhanced public realm and the delivery of active travel and public transport interventions targeted at revitalising the heart of Carrigaline. This will be progressed in parallel with the delivery of a high-quality active travel network which will provide enhanced connectivity and permeability both within Carrigaline and extending beyond the town to surrounding destinations.

In order to ensure continuing compatibility with national planning and investment policies and thereby ensuring continued funding of its implementation, a review of the Carrigaline TPREP will be required based on the Area Based Transportation Assessment approach, as outlined in the National Transport Authority/ Transport Infrastructure Ireland Advice Note. It is considered that the appropriate time for such a review is at the end of the implementation phase for the short-term proposals and prior to the review of both the Cork County Council Development Plan 2022 - 2028 and the Cork Metropolitan Area Transport Strategy.

The timing with respect to the delivery of the measures are subject to a number of influencing factors including pace of funding to support the required infrastructure, the need to deliver of safety enhancements within the study area and the statutory planning processes. However, the presented timeframes do recognise the current Programme for Government which has provided very strong commitments to support town centre regeneration projects, active and sustainable transport investment and universal accessibility.

There is a clear opportunity to implement the Carrigaline Transportation and Public Realm Enhancement Plan straight away to build on the changing attitudes to a shared sustainable future as laid out in Ireland's 2020 National Planning Framework and the European Green Deal. This implementation plan also takes into account the delivery of a number of on-going infrastructure projects within the study area which will facilitate the overall delivery of the Carrigaline Transportation and Public Realm Enhancement Plan, which include:

- Inner Western Relief Road; and
- M28 Motorway (Cork to Ringaskiddy Motorway).

Plan Timeframes

For the purpose of this implementation plan, the timelines have been divided into two delivery periods with the initial period of investment aligning with a review of the Cork County Development Plan in 2028. The implementation plan is focused on the rejuvenation and enhancement of the town centre as the catalyst for wider change in mobility for the entire town. It is also focused on enhanced accessibility by active modes within the study area. The following timeframes have been identified:

- Short Term 2021 2028; and
- Medium to Long Term 2028 2040.

The implementation plan also reflects on the interdependencies between the various infrastructure proposals to ensure the overall delivery of the Plan can be achieved in an effective manner.



Short Term Proposals

Short Term Proposals

The first tranche of proposals are focussed on the upgrade to Main Street, building on the delivery of the Inner Western Relief Road, enhancements to the pedestrian and cycle networks radiating out from the centre of Carrigaline along with the extension of the Crosshaven Greenway and the delivery of the section of the Carrigaline to Passage West Cycleway within the Study Area.

Main Street Public Realm Enhancement Project

The delivery of the Main Street Public Realm Enhancement Project is the primary catalyst to rejuvenate the town centre, encourage a greater uptake of active travel modes and provide a community focal point for the entire town. Ideally the construction works would begin following the opening of the Inner Western Relief Road. Should there be any unforeseen delays in the delivery of the public realm works it is suggested that elements of the traffic management plan such as the proposed Main Street bus lane, changes in access into Crosshaven Road and down along Church Hill should be introduced in an interim basis before the delivery of the entire upgrade to the street.

- 1. Main Street Public Realm Enhancement Plan
- 2. Inner Western Relief Road
- 3. Pedestrian and Cycle Network
- 4. Carrigaline to Crosshaven Greenway
- 5. Carrigaline to Passage West Cycleway

Short Term Proposals

To support the delivery of the Main Street Public Realm Enhancement Project the following complimentary proposals are proposed to be delivered at the same time:

- The Local Mobility Hub within the existing Owenabue car park; and
- The Parking Management Strategy.

Inner Western Relief Road

The Inner Western Relief Road is currently under construction and its delivery includes new dedicated pedestrian and cycle facilities as part of the project. To supplement these measures, the opening of the Owenabue Road (the current disused roadway to the rear of the soccer club) to traffic and the delivery of the pedestrian facilities to connect with Main Street should be delivered in partnership with the key land owners in the town centre. The delivery of this new road and the upgrade of the pedestrian and cycle facilities will enhance accessibility to the town centre and significantly relieve congestion on Main Street. It will also provide the right environment to invest in public realm enhancement in the heart of the town.

Pedestrian and Cycle Network

The following sections of the pedestrian and cycle network are proposed to be delivered in the short term. The delivery of the pedestrian and cycle network noted below will require further assessment and consultation with residents and the wider community before bringing through any statutory planning process in consultation with elected members;

- Cork Road Route [the section along Church Hill/ Rose between Main Street and Forrest Hill];
- Ballea Road Route:

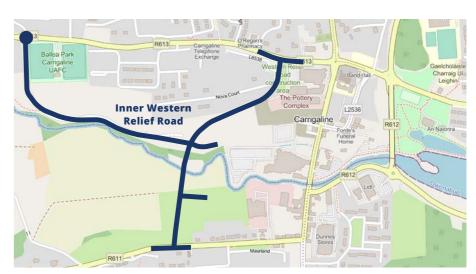
- Lower Kilmoney Route;
- The Ballinrea Road Route which has obtained Part VIII
 planning permission and is required to support the opening
 of the new educational campus located here. This upgrade
 includes the section of the route between the Cork Road
 and the educational campus itself;
- The section of the Ballinrea Road Route which runs through Bridgemount in addition to the Waterpark Route and the other upgrade proposals required within the Waterpark estate;
- The upgrade of the existing Westwood -Glenwood Route from Ballea Road to Cork Road and the delivery of the Dún Eoin Link;
- The upgrade of the existing Dún Eoin Route;
- The Weston Link, including the new link to the Owenabue Road (the disused road to the rear of the soccer club), subject to obtaining agreement with landowners and addressing any development proposals for the lands north of the Owenabue Road;
- The upgrade to the existing **Abbey View Link** including improvements to the public realm and accessibility to this link from Lower Kilmoney Road;
- The upgrade to **Liosbourne** Link;
- Old Waterpark Link;
- The completion of the Forrest Hill Route subject to the finishing of the Maple Hill housing estate and the completion of the new road link between Rose Hill and Kilmoney Road; and
- The upgrade to the **Mount Rivers Link(s)** to include the new connection to the Kilnagleary Road and the upgrade of the existing junction near Edmund Rice Catholic College.

Carrigaline to Crosshaven Greenway:

The delivery of this Greenway combined with the public realm works on Main Street will provide the platform for change within Carrigaline with respect to mobility, increased use of active travel modes and a sense of an improved community environment. Main Street will benefit in terms of vitality and business as it becomes a people-centric destination served by a high-quality, safe greenway building on the success of the existing Crosshaven Greenway. The enhanced pedestrian and cycle network will also include a short section of the Carrigaline to Passage West Cycleway over the Owenabue River to provide improved access to the local schools on Bóthar Guidel.

Carrigaline to Passage West Cycle way:

The delivery of the Carrigaline to Passage West Cycleway further enhances the active travel access to Main Street strengthening its destination potential for visitors outside the town. It provides the possibility to create a safe and direct cycle route to Ringaskiddy which will provide an alternative commuting route to employment opportunities. In addition, this route provides great access to local schools and the growing population to the north of the town.



Medium to Long Proposals Term Proposals

The key focus within the medium to long-term proposals includes the completion of the primary pedestrian and cycle network focusing on Cork Road and areas to the north east to tie into the future Fernhill Expansion Area, the delivery of safety enhancement works along the Rock Road, Ballea Road and Ballinrea Road which form part of the outer distributor roads and finally the completion of the pedestrian and cycle network to the south of Carrigaline.

Pedestrian and Cycle Network

The following sections of the pedestrian and cycle network are proposed to be delivered in the medium to long-term. As noted previously the delivery of the pedestrian and cycle network noted below will require further assessment and consultation with residents and the wider community before bringing through any statutory planning process in consultation with elected members;

- The remaining sections of **Cork Road Route** from the Shannon Park Interchange to Main Street. The section of Cork Road to the north of the town centre will also include upgrades to the bus priority along this route;
- The section of the Ballinrea Road Route between Cork Road and Bridgemount;
- The upgrade to the Janeville Route;
- The Carrigcourt Route;
- The upgrade to the **Heron's Wood Route** between Cork Road and Rock Road;

- The remaining section of the **Fernhill Route** which will be delivered in tandem with the development of the Fernhill Expansion Area;
- The Mountain Road Route to include the proposed upgrade to Foster's Cross;
- The Maple Hill Link and Hillcrest Link, the delivery of both will require alignment with the completion of the Maple Hill housing estate; and
- The Southern Amenity Walk.

Outer Distributor Routes

The safety enhancement works along the Rock Road, Ballea Road, and Ballinrea Road which form part of the outer distributor routes will facilitate the delivery of active and sustainable mode investment along the Central Distributor Route providing enhanced access to Main Street and the wider pedestrian and cycle network.



Local Park and Ride

It is proposed to deliver the Local Park and Ride site to the north of the town in tandem with the proposed improvements to the bus priority measures along Cork Road. This park and ride site will also include drop off facilities, bicycle parking, electric charging stations and good quality waiting facilities for bus passengers

Infrastructure Phasing:

The central tenet of this Plan is to prioritise and promote active and sustainable travel modes. Local trips are being accommodated by enhancements to the active travel network in Carrigaline and beyond, with longer distance trips addressed through enhancements to the public transport network both in Carrigaline and in the wider Cork area through the delivery of the measures contained in the Cork Metropolitan Area Transport Strategy.

Accordingly, during the implementation phase of the Plan, further assessment and refinement, where appropriate, of the infrastructural measures proposed in the medium to long term will be undertaken to ensure that these measures continue to align with transport planning policy and support the objective to reduce the current over-reliance on car-based travel in the plan area.





- 1. Eastern Outer Distributor Road
- 2. Pedestrian and Cycle Network
- 3. Local Park and Ride

Medium Long Term Proposals Park and Ride





Outcomes

The implementation of the proposals set out in this Plan will result in positive outcomes for the residents, businesses and visitors to Carrigaline. The key benefits include:



The new town centre and enhanced Main Street will provide a focus for the town to grow supported by enhanced access through active and sustainable travel modes. The enhanced access will contribute to the development of a more sustainable and liveable town.



The Plan's focus on enhancing the Main Street, providing spill out areas for businesses, bringing existing and new visitors to the town through the delivery of new cycleways will provide the platform for a vibrant town centre.



Greater Mobility

The Plan's delivery of new footpaths, cycle lanes, bus lanes, enhanced streets and realigned roadways will ensure the overall transportation network works more efficiently, carrying greater numbers of people with minimum delay.



The Plan's objective is to reduce the current reliance on the car and provide infrastructure and facilities for change. In terms of travel mode, the Plan's mobility targets are:

Travel Mode	Current	Future	Change
On foot	11%	19%	+63%
Bicycle	1%	4%	+309%
Public Transport	6%	8%	+33%
Car	81%	68%	-15%
Other	1%	1%	0%
TOTAL	100%	100%	

Carrigaline Transportation and Public Realm Enhancement Plan