Tay lane, Rathcoole Age-Friendly Development, Newcastle Road, Rathcoole, Dublin 24

Traffic Assessment and Mobility Management Plan

Client: Riverside Projects Ltd

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August 2022

Martin Rogers Consulting Ltd

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APPENDICES

1.0 INTRODUCTION

The Riverside Projects Ltd have appointed Dr Martin Rogers, Transport Planning Professional, to provide a Traffic Assessment and Mobility Management Plan for a retirement housing development on Newcastle Road, Rathcoole, Dublin 24.

The development will comprise 58 No. retirement housing units in total over four floors (20 No. 1B/2P and 38 No. 2B/3P units).

30 No. car parking spaces are proposed for the retirement housing development. This equates to 0.52 car parking spaces per dwelling unit.

A bike storage facility is included within the facility.

The vehicular access is onto Tay Lane, to the west of the site of the proposed development.

A Ground Floor Plan indicating the car parking location within the development is contained within Appendix 1.

The purpose of this report is to:

- Detail the low traffic volumes generated by the proposal;
- Proposed day-of-opening modal split targets for the proposal;
- Put forward a mobility management strategy for the proposed residential development; and
- Demonstrate significant non-car-based travel alternatives for residents at the proposed development.

Section 2 of this report contains the traffic assessment for the proposal that will estimate the volume of traffic generated by the proposed development, and will demonstrate its very limited impact on the local road network.

Section 3 of this report will estimate the car and cycle parking requirement for the overall development, together with the provision proposed. The section also utilises the 2017 Household Survey, published in December 2018 by the National Transport Authority, to derive modal splits for the residents at the proposed residential development.

Section 4 details guidance and policy documents relating to mobility management, with Section 5 outlining the travel plan pyramid.

Sections 6 contains the Mobility Management Plan (MMP) / Residential Travel Plan (RTP) for the proposal. This section contains revised modal splits for walking and cycling, together with additional measures to achieve these splits. The role of the Mobility Management Coordinator is also discussed.

A map indicating the general location of the development site within the Rathcoole are is contained within Figure 1-1.

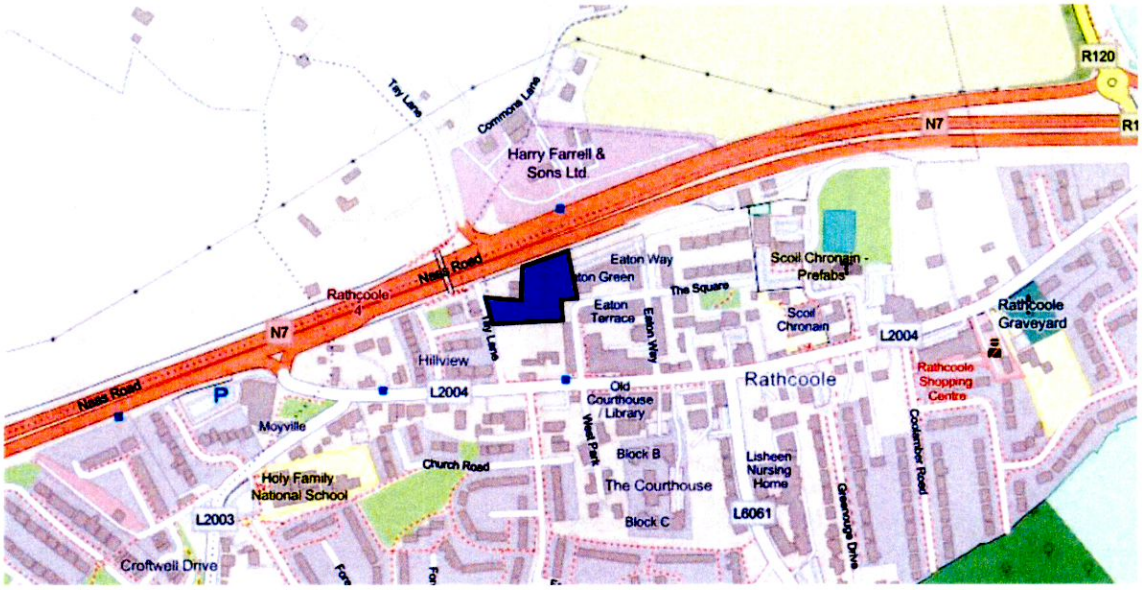


Figure 1-1: Location of site within Rathcoole area

Figure 1-1 indicates the site's central location within Rathcoole, 80 metres north of Main Street / L2004.

The site is very close to the 69 bus route linking the site to the LUAS Red line via the Teach Sagart LUAS stop in Saggart / Citywest.

2.0 TRAFFIC ASSESSMENT OF PROPOSED DEVELOPMENT

2.1 TRIP GENERATION ANALYSIS

The proposed development consists of 58 No. retirement housing units

TRICS typically gives the following weekday morning and evening peak-hour trip rates for retirement housing units:

		Weekday AM		Weekday PM		DAILY
		IN	OUT	IN	OUT	2-WAY
Retirement Housing	Trips/Unit	0.087	0.096	0.079	0.086	2.051

Table 2-1: Peak hour and daily trip rates for proposed development site

The above TRICS trip rates give rise to the following weekday morning and evening peak and daily trip volumes for retirement housing units:

		Weekday AM		Weekday PM		DAILY
	No. of units	IN	OUT	IN	OUT	2-WAY
Retirement Housing	58	5	6	5	5	119

Table 2-2: Peak hour and daily flows generated by proposed development site

Daily flows occur between 7AM and 9PM, a 14-hour time period.

Appendix 2 contains details of the sites in the UK and Ireland used to deduce the above rates, together with information on the day-long flow patterns.

The above flows equate to 1 No. vehicle entering or leaving every 5.5 minutes during the morning peak hour (9AM to 10AM for the development), and 1 No. vehicle entering or leaving every 6 minutes during the evening peak hour (5PM to 6PM for the development), and, for the 14-hour time period between 7AM and 9PM, on average, during every 60-minute period, 1 No. vehicle enters or leaves on every 7 minutes.

One can thus conclude that the proposed development will be lightly trafficked, with flows relatively un-peaked, averaging 9 No. vehicles per hour over the 7AM to 9PM period.

2.2 RECEIVING NETWORK

All trips entering and exiting will do so via Main Street, a local road (L2004) linking the Rathcoole Area with both the Dublin South City area via the Sagart / Citywest / Clondalkin areas.

Main Street is a 2-way roadway approximately 6 metres in width providing excellent connectivity within the local road network and easy access onwards to Saggart and Citywest.

It would be reasonable to assume Main Street to be a UAP4 Road type within the Design Manual for Roads and Bridges (DMRB) - a busy high street carrying mostly local traffic with frontage activity

Assuming a minimum road width of 6.1 metres, the standard indicates a peak hour directional capacity of 750 vehicles per hour. (This capacity is extracted from TA 79/99 – Traffic Capacity of Urban Roads (Department for Transport, 1999) which details the peak hour capacities of the different road type.)

2.3 IMPACT OF GENERATED FLOWS

Table 2-2 indicates a maximum 2-directional peak hour flow of 11 No. vehicles (inbound plus outbound, evening peak).

Assuming a 70:30 split in the peak direction during both peak hours, this translates into a peak hour directional flow of 8 No. vehicles per hour (0.7 × 11).

This constitutes approximately 1% of the assumed capacity of the Main Street link as detailed within section 2.2 using DMRB.

One can therefore assume that the traffic impact of the proposed development on the local road network will be at an imperceptibly low level.

3.0 REQUIRED AND PROPOSED CAR PARKING PROVISION

3.1 INTRODUCTION

This section details the car parking requirements under the South Dublin Development Plan 2022 to 2028.

While no specific requirement for age-friendly housing is contained within the Development Plan, this report utilises the requirement for retirement homes and apartments stated in the document.

3.2 CAR AND CYCLE PARKING REQUIREMENTS AS PER DCC DEVELOPMENT PLAN

Car Parking
Tables 3-1 below details the maximum car parking standards for South Dublin County Council based on the rates contained within their 2022 – 2028 Development Plan Written Statement for both retirement homes and apartment developments.

The development comprises 20 No. 1-bed housing units (maximum occupancy 2 No. persons) and 38 No. 2-bed housing units (maximum occupancy 3 No. persons).

Therefore, the above development mix provides a maximum occupancy for the overall development of 154 No. persons

Development type	Units / Residents	Maximum car parking standards	Maximum parking required
Retirement Home	154 No. residents	1 per 8 No. residents	19 No.
Apartments	58 No. units (20 No. 1-bed + 38 No. 2-bed)	(20×0.75)+(1×38)=53	53 No.

Table 3-1: Maximum Car Parking required under South Dublin County Council Development Plan Standards (The Site is in Rathcoole Village Centre which is identified as a Growth Town in the CDP Core Strategy, therefore, it is contended that Zone 2 is justified).

The proposed development will provide 30 No. car parking spaces for the proposed age-friendly housing development.

The provision of 30 No. car parking spaces is based on the following allocation:

- 24 No. spaces allocated to residents, based on 1 No. space per 4 bedrooms (96 No. beds in total within development);
- 2 No. spaces allocated to the community centre facility for hosting communal activities by the residents;
- 1 No. space for the Buildings Manager; and
- 3 No. visitor spaces

The figure of one space per 8 No. residents, yielding a requirement for 19 No. spaces, is very similar to the one space per 7 No. residents previously used by Cluid who are the ultimate end-users for the proposed development, with one space per 7 No. residents yielding a requirement of 22 No. spaces.

The overall figure of 30 No. spaces can be seen as striking a balance between apartment and retirement home standards, since no standard is provided for 'age friendly' development and the occupier profile of 'age friendly' development is markedly different to that of a standard apartment scheme, which would require 53 No. spaces for full compliance as detailed above within Table 3-1. It must be noted that residents of 'age-friendly' schemes will have a far greater degree of independence than care home / retirement home residents and so providing a higher level of car parking, relative to the care homes standard, is justified in this case. Furthermore, the majority of residents will not undertake daily work commutes which account for a high proportion of private car trips in a standard apartment development. Given that the site is within walking distance of local shops and facilities, providing a lower level of car parking relative to the standard for apartments is justified given the age profile and employment profile of the intended occupants.

Also, 2 No. spaces have been provided for the community centre. It could be argued that no extra parking requirement is generated by this facility as it will used only by the residents and local community living nearby. This would bring the effective quantum of residents' car parking to 26 No., equivalent to 1 No. space per 6 No. residents.

At a residential development in Drogheda, County Louth, which included retirement housing, and which was granted permission in 2018, 1 No. car parking space per 3 No. units were proposed and accepted by the planning authority.

This would equate to 16 No. car parking spaces for residents (58÷3=16), significantly lower than the overall quantum of 30 No. spaces proposed.

The TRICS figures indicate an average of less than 5 No. vehicles entering in any given hour, with a very similar exit flow, resulting in very low accumulations. A provision of 30 No. spaces equates to 5 No. vehicles arriving per hour for 6 hours with no exiting movements. The TRICS data indicates that such is not the case, with inflows practically matching outflows, with low accumulations as a result.

Thus, on the evidence of the TRICS data, 30 No. car parking spaces will be more than adequate.

Cycle Parking
It is proposed to provide 80 No. cycle parking spaces on site.

Table 3-2 details relevant cycle parking standards

Development type	Units / Residents	Minimum Cycle parking standards	Minimum parking required
Retirement Home	154 No. residents + 0 staff	(154÷10)+(0÷5)	16 No.
Apartments	58 No. units (20 No. 1-bed + 38 No. 2-bed)	(20×1)+(2×38) + (58÷2)=125	125 No.

Table 3-2: Minimum Cycle Parking required under South Dublin County Council Development Plan Standards

The overall figure of 80 No. cycle spaces aims to strike an appropriate balance between residential apartment and care retirement home parking standards bearing in mind the age profile of the intended occupants.

The proposed provision of 80 No. spaces is 64% of the required provision for apartment developments. Given the targeted age profile for the proposed development, and the consequent reduced likelihood of cycling being a viable transport option for this age-cohort, this level of provision is seen as entirely justified.

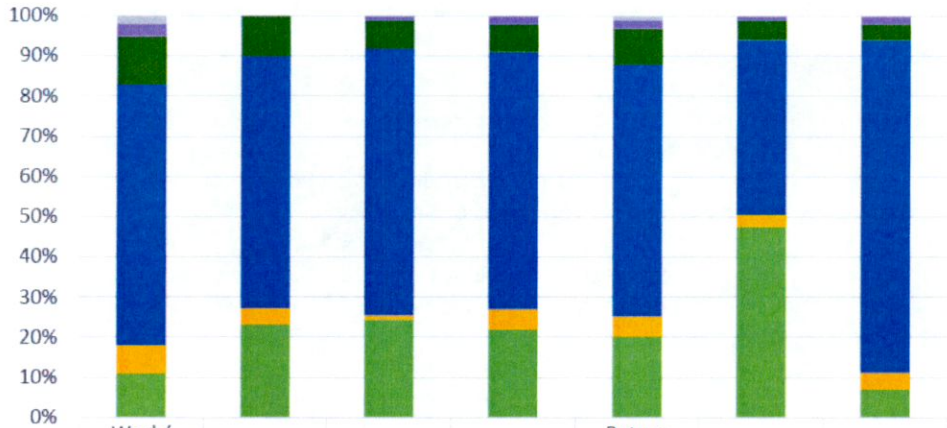
It should also be noted that the proposed provision is five times the requirement for a retirement home / nursing home development.

3.3 MODAL SPLITS FOR THE PROPOSED RETIREMENT HOUSING DEVELOPMENT

In order to develop a mobility strategy for the development and maximise the use of sustainable travel modes by the residents, it is essential that a set of baseline modal splits is derived for the day-of-opening of the proposed development.

Given that the trips generated by the development will be non-work-based, the National Household Travel Survey results are utilised to help derive modal splits for the proposed development.

Figure 3-1 details the modal split figures for the Greater Dublin Area for shopping, social, personal and 'other' purposes:



	Work/ business	Education	Shopping	Social	Return home	Personal	Other
Truck/ Van	2%	0	0	0	1%	0	0
DART/ Train/ LUAS	3%	0	1%	2%	2%	1%	2%
Bus/ Coach	12%	10%	7%	7%	9%	5%	4%
Car	65%	62%	65%	64%	62%	44%	82%
Cycle	7%	4%	1%	5%	5%	3%	4%
Walk	11%	23%	24%	22%	20%	48%	7%

Figure 3-1: Non-work-based modal splits for the Greater Dublin Area

Table 3-3 extracts the shopping, social, personal and 'other' modal splits for the GDA and details overall average modal splits for the site:

MODE	CAR (%)	WALKING (%)	BUS (%)	CYCLING (%)	LUAS / TRAIN (%)
Shopping	65	24	7	1	1
Social	64	22	7	5	2
Personal	44	48	5	3	1
Other	84	7	4	4	2
Average	64	25	6	3	2

Table 3-3: Non-work-based modal splits for GDA and overall average values

The average values within Table 3-3 will be used for the day-of-opening splits at the proposed development.

They indicate just less than two-thirds using the car, with one-quarter walking, entirely reasonable given the proximity of Rathcoole Village. The other modes (bus / cycling / LUAS) are predicted to be used by 11% of commuters at the proposed development.

Sections 4 to 6 of this document seek to demonstrate that the above modal splits are entirely sustainable for the proposed development, and provides details of the role of the Mobility Management Co-ordinator appointed at the site to oversee a sustainable transport strategy for residents and visitors at the site.

4.0 GUIDANCE DOCUMENTS ON MOBILITY MANAGEMENT PLANNING

4.1 INTRODUCTION

A Mobility Management Plan (MMP) is a long-term management strategy covering a selected location with the aim to promote and deliver sustainable transport objectives. A Mobility Management Plan consists of a package of measures put in place by an applicant in order to encourage and support more sustainable travel patterns among both residents and visitors at the proposed development.

The package usually includes measures to promote and improve attractiveness of using public transport, cycling, and walking. It should be considered a dynamic process where a package of measures are identified, piloted and monitored on an ongoing basis.

A MMP prepared at planning stage, before the development is built and occupied, can only highlight potential issues to be included in a subsequent MMP to be prepared once the development has obtained a grant of planning permission and is built and occupied.

The environmental and congestion impacts of car-based transport has resulted in policy changes where the priority of more sustainable forms of travel has increased. The MMP helps to encourage use of modes of travel other than the private car.

The proposed development is located adjacent to 69 bus route which operates between Rathcoole and Dublin every 30-minutes during the morning peak.

MMP's are intended to bring the following benefits:

- Greater accessibility of the site;
- Encouraging of safe and viable alternatives for accessing the site;
- Pragmatic initiatives based on appraisal of residents' and visitors travel patterns; and
- Reduced overall vehicle mileage and trip volumes.

4.2 GUIDANCE AND POLICY DOCUMENTS

This report was developed with guidance from the documents listed below;

4.2.1 NATIONAL POLICY

Smarter Travel A Sustainable Transport Future 2009 – 2020 (Department of Transport, 2009)
The governments transport policy for the future that targets transportation. It promotes greater integration between spatial planning and transport policy. The aim is to reduce car based commuting below 65% by 2020.

Regional Spatial and Economic Strategy (Eastern and Midland Regional Assembly, 2019)
This document notes the trends within the Region that indicate an overreliance on the private car for travel to work and education, stating that approximately 46% of Dublin's population commute by private car. Regional Planning Objective 8.7 within this document aims to promote the use of mobility management and travel plans to bring about behaviour change and more sustainable transport use.

National Cycle Policy Framework 2009 (Department of Transport, 2009)
The National Cycle Policy Framework NCPF sets out a national policy for cycling to create a stronger cycling culture and a friendlier environment for cyclists.

Making Residential Travel Plans Work (Department for Transport, UK, 2007)
UK document providing a framework for residential travel plans, detailing the content to be contained within the Travel Plan. This document incorporates the structure advocated by this document.

Sustainable Urban Housing: Design Standards for New Apartments - Guidelines for Planning Authorities (Department of Housing, Local Government and Heritage, December 2020)
This document details new levels of car and cycle parking provision for apartment developments in urban areas.

4.2.2 LOCAL POLICY

South Dublin Development Plan 2022-2028
The development plan requires that Traffic and Transport Assessments and/or Workforce Travel Plans (also known as Mobility Management Plans) will be required to support development proposals that have the potential to generate significant traffic movements, to demonstrate that there is public transport carrying capacity and road capacity to serve the development.

Transportation Strategy for the Greater Dublin Area 2016-2035 (NTA, 2016)
This document states that development within the existing urban footprint of the Metropolitan Area should be consolidated to achieve a more compact urban form. Policy should allow for the accommodation of a greater population than at present, with much-enhanced public transport system, with the expansion of the built up areas providing for well-designed urban environments linked to high quality public transport networks, enhancing the quality of life for both residents and workers.

Dublin City Centre Transport Study (NTA, 2016)
The Study seeks to address major transport issues facing the core city-centre area, to facilitate the implementation of the Dublin City Council Development Plan, and to safeguard the future growth of the city, specifically in terms of new transport infrastructure. The construction and operation of Luas Cross City will require a significant reconfiguration of current transport arrangements. This study addresses these issues and proposes measures to counter long-standing constraints of the existing City Centre transport network. This will ensure that capacities are in place to meet the demands of future growth in the City, as well as optimising the use of the City Centre's limited road space to maximise the benefits for people living, working and visiting Dublin City Centre. The key objectives include increasing the capacity, reliability and use of public transport into and within the City Centre as well as improving the quality of service for cycling and walking, with particular emphasis on the 'core' City Centre;

The Study advocates significant reductions in the modal split for private cars for the journey to work over the short to medium term in the Greater Dublin Area.

The achievement of these targets requires developments such as the one proposed at the proposed development to advocate sustainable modes of transport for residents travelling to work and college. Achievement of the objectives and targets as outlined within this document. The residential travel plan framework will be entirely consistent with the aims of the Dublin City Centre Transport Study.

Cycling Policy
The National Cycle Manual, adopted in 2011, provides local guidelines on cycle parking provision.

5.0 THE TRAVEL PLAN PYRAMID

The UK document 'Making Residential Travel Plans Work' details the travel plan pyramid that helps demonstrate how successful plans are built on the firm foundations of a good location and site design. A Plan should also combine hard measures – such as new bus stops and cycle ways, and soft measures – such as help with individual journey planning. The Travel Plan should integrate all measures into the design, marketing and occupation of the site. In addition, parking restraint is often crucial to the success of the plan in reducing car use.

An image of the pyramid is contained within Appendix 3.

The travel pyramid, as detailed within 'Making Residential Travel Plans Work', contains the following five key concepts that are central to a good MMP:

- Location - Residents need to be within easy reach of shops and services – so that walking or cycling becomes the natural choice – readily achievable given the proximity of Rathcoole Village;
- Built Environment – Low-density developments are hard work to get round by bike and foot. Encouraging compact development that is walking and cycling friendly, with low parking allowances, is crucial in encouraging sustainable travel choices;
- Mobility Management Plan Coordinator - Successful mobility management plans need people. The Coordinator plays a crucial role in developing the plan and working with residents and management to ensure the plan meets their needs for access and evolves over time;
- Services and facilities - Good public transport can help reduce the need for on-site parking. Other measures, such as broadband internet access and home deliveries can reduce the need to travel off site; and
- Promotional strategy - Welcome packs, public transport information and additional cycle parking facilities can all help introduce the mobility management plan to residents and build enthusiasm.

In terms of location and built environment, one can see the significant advantages of the subject site, within easy access of bus facilities, with the layout of the proposed development making cycling and walking safer and more efficient.

This report will demonstrate the central role that the Mobility Management Plan Coordinator will play in setting targets, minimising private car usage and maximising the circulation of promotional material among residents.

6.0 MOBILITY MANAGEMENT PLAN

6.1 CONTENTS

Section 6.2 of this report will summarise the existing road network, public transport, walking and cycling facilities at the subject site.

Section 6.3 takes the existing commuter travel patterns for the area and proposes 'year-of-opening' and 'year-of-opening plus 5' modal splits for the proposed development. It also contains proposed future improvements public transport and cycling facilities nearby which will assist in the attainment of the stated targets.

Section 6.4 details the objectives of the Mobility Management Plan Strategy and lists a suite of measures that aim to facilitate the achievement of these objectives.

Section 6.5 details the central role of the Mobility Management Plan Coordinator in the attainment of the objectives as set out within Section 6.4.

Section 6.6 contains some concluding comments.

6.2 CAR, PUBLIC TRANSPORT, WALKING / CYCLING FACILITIES AND COMMUTER TRAVEL PATTERNS

6.2.1 ROAD NETWORK

The development is located within Rathcoole Village, approximately 80 metres north of Main Street, with direct links to the west Dublin suburbs and the N7 / Naas Road.

6.2.2 EXISTING PUBLIC TRANSPORT FACILITIES

Figure 6-1 contains details of the LUAS and public transport facilities close to the proposed development.

Figure 6-1: Existing bus and LUAS transport facilities close to subject site

The 69 and 69x routes from Rathcoole to Hawkins Street runs 3 times per hour during the morning peak, with the 39A along Prussia Street running 8 times per hour during the peak.

The frequency of each of the above routes during the morning peak is detailed within Table 6-1.

Route	Origin	Destination	AM Peak time Frequency
69	Rathcoole	Hawkins Street	2 PER HOUR
69X (express, peak only)	Rathcoole	Hawkins Street	1 PER HOUR
TOTAL	-	-	**3 PER HOUR**

Table 6-1: Route origins, destinations and frequencies

Route 69 provides a direct link to the LUAS Red Line which terminates at Teach Sagard, 3 km east of the subject site.

Figure 6-2 provides a map detailing the LUAS network, and the location of the Saggart stop within it:

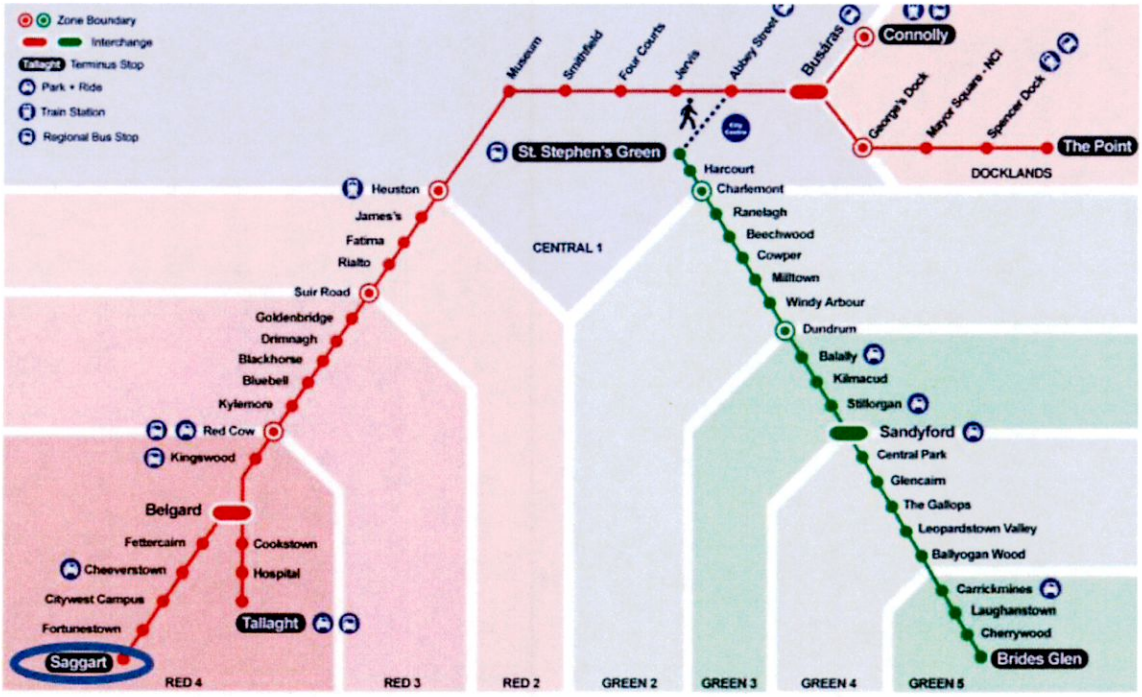


Figure 6-2: Location of the Saggart stop within the LUAS network

6.2.3 EXISTING CYCLING AND PEDESTRIAN FACILITIES

There are no cycle lanes in the vicinity of the proposed development.

The good quality footpath facilities within Rathcoole Village, and along one side of Tay Lane.

6.3 PREDICTED POST-DEVELOPMENT TRAVEL PATTERNS

6.3.1 INTRODUCTION

This report will assume that the modal splits derived within section 3.3 will apply on the day of opening of the development, and details them within Table 6-2 below:

Table 6-2 below also indicates a target profile for the future residents at the Rathcoole retirement housing development for the day of opening plus five years:

Transport Mode	Commuter Usage (%) (day-of-opening)	Commuter Usage (%) (+ 5 years)
Car	64	45 (-19)
Walking	25	30 (+5)
Bus	6	12 (+6)
Cycle	3	8 (+5)
LUAS	2	5 (+3)

Table 6-2 - Future Target Modal Splits for proposed Blackhorse Avenue residential Development

Proposed targets for five years after the day of opening of the proposed development indicate commuting by private car decreasing to 45%, with the modal split for walking increasing to 3%, bus increasing to 12%, cycling increasing to 8% and LUAS usage increasing to 5%.

The section immediately below details future cycling and bus projects that will facilitate the planned increases in travel to work by these two modes.

6.3.2 FUTURE PLANNED PUBLIC TRANSPORT AND CYCLING NETWORK IMPROVEMENTS

Greater Dublin Area Cycle Plan

Figure 6-3 details the network improvements proposed within the GDA cycle plan:

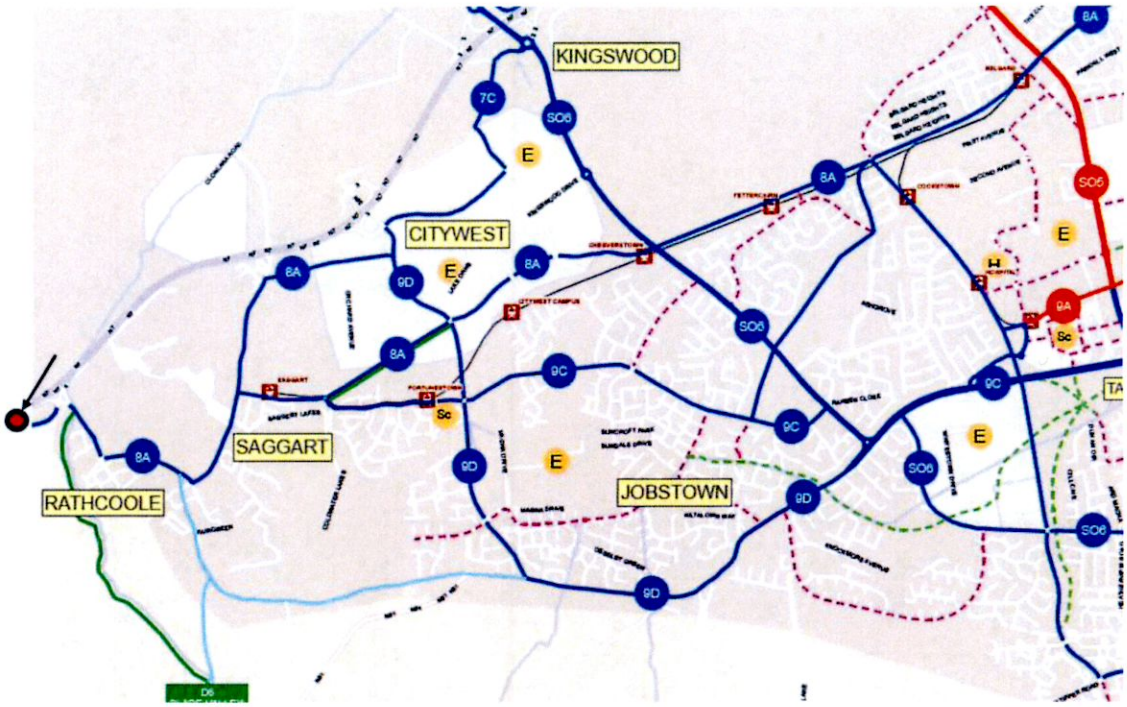


Figure 6-3: Proposed cycle facilities close to the subject site (GDA cycle plan) (primary routes in red, secondary in blue)

Radial Routes

Radial Route 8A

Route 8 runs from South Great George's Street via the Coombe area and Dolphin's Barn to the junction of Crumlin Road and Sundrive Road (Route SO2).

Route 8A follows Crumlin Road past the Children's Hospital, Bunting Road to Walkinstown, through Ballymount to cross the M50 at Junction 10 and out to Citywest / Fortunestown /Saggart via Belgard.

This route will run from the City Centre to the Navan Road via Grangegorman, Prussia Street, North Circular Road at Hanlon's Corner and Old Cabra Road

Appendix 4 contains the text from the GDA Cycle Network Plan for the Dublin South West Sector.

The day of opening plus 5 target aims to increase the modal split for cycling by 5% to 8%.

The provision of a cycle storage area within the site will assist in achieving this target.

Bus Connects

In 2018, the National Transportation Agency (NTA) published the Core Bus Corridors Project Report ('Bus Connects Report'), a preliminary document outlining proposals for the delivery of a core bus corridor network within Dublin.

Figures 6-4 and 6-5 contains a map detailing the route of the proposed 93, 393 and W8 routes running close to the site.

Appendix 5 contains the text for the Newcastle and Rathcoole area from the Bus Connects report.

Route 93 runs from Rathcoole to the Dublin Port area. It will be an all-day service, running every 60 minutes.

This route would start at the existing 69 terminus in Rathcoole, and connecting to Saggart, Citywest and Clondalkin, and onwards to the City Centre.

Route 393 runs from Rathcoole to the City Centre. It will be a peak-only express service, similar to the existing Route 69x, but with a second trip added in the morning in response to observed significant levels of demand.

The eastern sector of Rathcoole village would also be near the orbital Route W8, running from Maynooth to Tallaght. It will be an all-day service, every 30 minutes, and will provide a new regular link to Maynooth, Celbridge and Hazelhatch Station to the north, and to Saggart, Citywest and Tallaght to the south.

Figure 6-4: Proposed routes to the west of Rathcoole Village

Figure 6-5: Proposed routes to the east of Rathcoole Village

The day of opening plus 5 target aims to increase the modal split for bus transport by 6% to 12%.

The provisions within the Bus Connects Strategy will assist in achieving this target.

6.3.3 CONCLUDING COMMENT ON MEETING FUTURE MODAL SPLIT TARGETS

The above details on the GDA Cycle Network Plan and the Bus Connects project indicate how projects are planned which will help increase modal share for public transport users and cyclists living within the proposed development.

In addition, the basic pedestrian network in the vicinity is good. The day of opening plus 5 target for walking indicates an increase in this mode of 5% over day of opening split, achievable with good information on walking routes to important destinations for residents.

The 5-year increase for LUAS of 3% is seen as achievable given ongoing trends in the increasing ue of public transport by commuters for leisure-based trips.

In order to further advance the use of non-car-based modes of travel on site, Sections 6.4 and 6.5 of this report will demonstrate how the setting of appropriate objectives and the appointment of a Mobility Management Plan Coordinator (MMPC) to oversee their implementation will ensure that the achievement of sustainable travel modes for occupants at the subject site.

6.4 OBJECTIVES OF MOBILITY MANAGEMENT PLAN STRATEGY

6.4.1 INTRODUCTION

A Mobility Management Plan Framework is a tool that brings together site management issues relating to transportation in a coordinated manner. This document puts in place the objectives of the mobility management strategy for the subject site and the specific measures designed to achieve these objectives.

While recognising that not all car trips can be eliminated, this strategy aims to provide sustainable transport choices for both residents and visitors at the site, thus leading to a reduction in private car use for the trip to and from the site. The strategy will detail specific measures for achieving effective modal shift away from the private car.

The aim of this strategy is thus to introduce measures which will maximise the chances that the modal split targets for year of opening and 5 years thereafter are met if not exceeded.

The objectives of the Mobility Management Plan Strategy for the proposed development in order to meet the stated targets for the subject site are as follows:

- To manage the car parking resources in such a manner that generally discourages use of the private car for the journey to work and maximises the efficient use of the limited on-site spaces available (Objective No. 1);
- To encourage residents and visitors to use public transport by providing information on the services available to use public transport. New public transport schemes coming on stream will further aid the achievement of this objective (Objective No. 2);
- To encourage residents to cycle, if appropriate, by providing safe parking, enhanced support / promotion of cycling, and general information on the health benefits of cycling (Objective No. 3); and
- To encourage residents to walk to and from their destination if appropriate, by providing all necessary information on this mode of travel (Objective No. 4).

Table 6-2 assumes that measures will be taken within five years of opening to reduce the modal split for car driver travel down to 45%, to increase bus transport to 12% and LUAS to 5%, and to increase the walking modal split to 30% and cycling to 8%.

A number of the proposals listed to achieve these modal splits are easy and inexpensive to implement. Other measures require initial co-operation and co-ordination both within and between organisations.

The general morale of residents will be, to an extent, dependent on their general state of health and fitness, and increasing their use of non-car-based modes can be a significantly beneficial factor in regard to increased fitness and wellbeing.

6.4.2 OBJECTIVE NO. 1 - MAXIMISING THE EFFICIENT USE OF CAR PARKING FACILITIES

INTRODUCTION

The following measures will help both to discourage use of the private car for journeys to and from the site by residents and visitors:

INCREASING CAR OCCUPANCY RATES

Increasing car occupancy is a powerful tool in decreasing the volume of car trips to and from this type of development. The Mobility Management Plan Coordinator can achieve such overall trip reductions by promoting car sharing through use of a notice board within the residential development and through use of the website for the development which on-site management will set up.

6.4.3 OBJECTIVE NO. 2 - ENCOURAGING GREATER USE OF PUBLIC TRANSPORT

INTRODUCTION

The predicted increase from 8% to 17% public transport (bus + LUAS) modal split has its basis in the expected local improvements to the public transport access that will come on stream over the coming years, together with upgrades and increased efficiencies within the existing infrastructure.

PUBLIC TRANSPORT INFORMATION

It is vital that timetable information is available to residents in order to encourage maximum usage of the public transport system. Dublin Bus and LUAS timetables should be posted on the notice board within the apartment complex and / or the web site to be set up by on-site management.

6.4.4 OBJECTIVE NO. 3 - ENCOURAGING MORE RESIDENTS TO CYCLE

Cycling will be a favoured transport option for a predicted 3% of residents at the proposed development on its day of opening, increasing to 8% five years thereafter.

It is reasonable to assume a significant increase in this modal share over values pertaining in the locality, within the first 5 years after the opening of the residential component of the facility given:

- The provision of a bike storage area within the site for residents and visitors, so that a safe parking space exists for residents and visitors if they choose to utilise this mode (this area is in addition to the assumed storage capability within each housing unit);
- The improvements detailed within the Greater Dublin Area Cycle Plan; and
- The provision of information on the development's noticeboard and website regarding optimum cycle routes to various nearby city centre and suburban centres of retail and recreational activity.

6.4.5 OBJECTIVE NO. 4 - ENCOURAGING MORE RESIDENTS TO WALK

Walking will be a favoured transport option for a predicted 25% of residents at the proposed development on its day of opening, increasing to 30% five years thereafter.

Increase in this modal share will be facilitated by noticeboard and website information on quickest / most efficient / safest routes to town, nearby districts and closest bus stops and LUAS Stations.

6.5 ROLE OF THE MOBILITY MANAGEMENT PLAN COORDINATOR

6.5.1 APPOINTMENT OF MOBILITY MANAGEMENT PLAN COORDINATOR

It will be the intention of on-site management at the proposed development' to appoint a Mobility Management Plan Coordinator to administer, implement, monitor and review the mobility plan management objectives detailed within this report. The coordinator will also liaise with the local authority, public transport companies and facility managers on issues relevant to the maximisation by commuters of non-car based journeys to work.

It is anticipated that the Buildings Manager at the proposed development will fulfil this role.

6.5.2 DUTIES OF THE MOBILITY MANAGEMENT PLAN COORDINATOR

This Mobility Management Plan has, as its basic aim, the minimisation of private car usage by all residents and visitors, and the maximization of travel by soft modes and public transport.

The co-ordinator will have a vital role in encouraging and enabling residents and visitors at the subject site to adopt the measures listed within the document to achieve the objectives listed above within section 6.4. Details of the duties of the co-ordinator are as follows:

- Promoting the environmental and health benefits of their travel choices;
- Promoting bike use;
- Promoting walking for at least part of their chosen journey;
- Promoting rail and bus based travel; and

- Monitoring the modal splits for resident and visitor journeys to and from the site of the proposed development on an annual basis.

Promoting the environmental and health benefits of their travel choices

It will be the duty of the coordinator to make residents aware of the environmental and health consequences of their travel choices. The co-ordinator should employ various media to communicate this message. These could include a newsletter and a mobility website, and providing information on issues such as available public transport services, where to buy a bike, and the health benefits of cycling / walking.

Promoting bike use

The coordinator can promote the use of this mode of travel using other measures such as the setting-up of a cycle users group so that experienced cyclists within the development can help encourage newcomers to this mode of travel. The coordinator can also help by

- Keeping tool kits and spare parts on site for cyclists to avail of;
- Using the web site and newsletter as an aid to encouraging the mode of travel, pointing out the potential time savings involved; and
- Keep in contact with the local authority to monitor the progress in implementation of the proposed cycle track network in the locality.

It would also be possible for coordinator at the proposed residential development to agree a group bicycle insurance scheme for residents at preferential rates in order to maximise its use as a mode of travel to work.

Promoting walking to work

As with cycling, the coordinator should promote the health and fitness benefits of walking and its general viability as a method of getting to and from the site to local destinations. The coordinator can also liaise with the local authority on work being done close to the candidate site to make the local road network more pedestrian friendly.

Promoting rail and bus based travel

The coordinator will promote a public transport culture among residents and visitors. The coordinator can use the newsletter and website to provide information on public transport, in particular timetable information, fares, bus and LUAS stop location and route planning, together with information on free-travel options available to residents.

Monitoring the modal splits for the residents' journey to work

In order to maximise the effectiveness of the Mobility Management Plan, the coordinator should be responsible for the ongoing monitoring of the modal splits within the plan, including the carrying out on a regular basis of travel surveys of all on-site residents and regular visitors.

6.6 CONCLUDING COMMENTS ON MOBILITY PLAN

This Mobility Management Plan is required to insure the sustainability of modal choices by residents and visitors at the subject site. This plan is entirely sustainable given the availability of public transport and soft mode options for the potential residents and visitors, the proximity of the site to Rathcoole Village, Saggart, Newcastle and the Tallaght area, recreational centres, and the incentives for residents and visitors to cycle given the availability of safe cycle parking on site.

The above Mobility Management Plan for the subject site aims to achieve a sustainable travel culture for residents at the proposed apartment development by:

- Outlining a travel strategy,
- Listing measures to achieve its objectives; and
- Committing to appoint a Mobility Management Plan Coordinator to oversee and monitor progress towards the improved modal splits predicted for the site five years after opening.

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APPENDIX 1

GROUND FLOOR PLAN / SITE LAYOUT

GROUND FLOOR PLAN FOR PROPOSED DEVELOPMENT

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APPENDIX 2 TRICS DATA

Calculation Reference: AUDIT-306901-211101-1113

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : N - RETIREMENT FLATS
TOTAL VEHICLES

Selected regions and areas:

01	**GREATER LONDON**		
	WF	WALTHAM FOREST	1 days
02	**SOUTH EAST**		
	IW	ISLE OF WIGHT	1 days
	KC	KENT	1 days
	WS	WEST SUSSEX	1 days
04	**EAST ANGLIA**		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
	LN	LINCOLNSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	1 days
	WY	WEST YORKSHIRE	1 days
08	**NORTH WEST**		
	CH	CHESHIRE	1 days
10	**WALES**		
	CF	CARDIFF	1 days
	MM	MONMOUTHSHIRE	1 days
11	**SCOTLAND**		
	EB	CITY OF EDINBURGH	1 days
	FI	FIFE	1 days
12	**CONNAUGHT**		
	GA	GALWAY	1 days
14	**LEINSTER**		
	KK	KILKENNY	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 17 to 88 (units:)
Range Selected by User: 17 to 88 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 20/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	5 days
Wednesday	3 days
Thursday	3 days
Friday	4 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	18 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	7
Suburban Area (PPS6 Out of Centre)	4
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	4

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	16
Village	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	18 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	3 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days
20,001 to 25,000	2 days
25,001 to 50,000	7 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,000 or Less	2 days
5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	3 days
125,001 to 250,000	3 days
250,001 to 500,000	4 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	5 days
1.1 to 1.5	10 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	2 days
No	16 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	17 days
0 None	1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **CA-03-N-02** **RETIREMENT FLATS** **CAMBRIDGESHIRE**
DOGSTHORPE ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 32
Survey date: MONDAY *17/10/16* *Survey Type: MANUAL*

2 **CF-03-N-01** **RETIREMENT FLATS** **CARDIFF**
CARDIFF ROAD
CARDIFF
LLANDAFF
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 60
Survey date: WEDNESDAY *05/10/16* *Survey Type: MANUAL*

3 **CH-03-N-01** **RETIREMENT FLATS** **CHESHIRE**
HOBSON STREET
MACCLESFIELD

Edge of Town Centre
Residential Zone
Total No of Dwellings: 33
Survey date: FRIDAY *16/09/16* *Survey Type: MANUAL*

4 **DS-03-N-01** **RETIREMENT FLATS** **DERBYSHIRE**
LEAPER STREET
DERBY

Edge of Town Centre
Residential Zone
Total No of Dwellings: 36
Survey date: WEDNESDAY *25/09/19* *Survey Type: MANUAL*

5 **EB-03-N-01** **RETIREMENT FLATS** **CITY OF EDINBURGH**
POLWARTH GARDENS
EDINBURGH
MERCHISTON
Edge of Town Centre
Residential Zone
Total No of Dwellings: 33
Survey date: FRIDAY *22/05/15* *Survey Type: MANUAL*

6 **FI-03-N-01** **RETIREMENT FLATS** **FIFE**
ST MARGARET STREET
DUNFERMLINE

Edge of Town Centre
No Sub Category
Total No of Dwellings: 47
Survey date: MONDAY *21/03/16* *Survey Type: MANUAL*

7 **GA-03-N-01** **RETIREMENT VILLAGE** **GALWAY**
BRIDGESTREET
BALLINASLOE

Edge of Town Centre
Residential Zone
Total No of Dwellings: 37
Survey date: THURSDAY *27/10/16* *Survey Type: MANUAL*

8 **IW-03-N-01** **RETIREMENT FLATS** **ISLE OF WIGHT**
CHURCH ROAD
BEMBRIDGE

Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: THURSDAY *27/06/19* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 **KC-03-N-08** **RETIREMENT FLATS** **KENT**
CANTERBURY ROAD
HERNE BAY
EDDINGTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 88
Survey date: TUESDAY *26/09/17* *Survey Type: MANUAL*

10 **KK-03-N-01** **RETIREMENT FLATS** **KILKENNY**
DONOUGHMORE
BALLYRAGGET

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 55
Survey date: THURSDAY *26/10/17* *Survey Type: MANUAL*

11 **LN-03-N-01** **RETIREMENT FLATS** **LINCOLNSHIRE**
NEWPORT ROAD
LINCOLN
ERMINE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 39
Survey date: FRIDAY *28/06/19* *Survey Type: MANUAL*

12 **MM-03-N-01** **RETIREMENT FLATS** **MONMOUTHSHIRE**
BRYNGWYN ROAD
NEWPORT

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 65
Survey date: FRIDAY *27/09/19* *Survey Type: MANUAL*

13 **NF-03-N-02** **RETIREMENT FLATS** **NORFOLK**
YARMOUTH ROAD
NORWICH
THORPE SAINT ANDREW
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 48
Survey date: WEDNESDAY *20/11/19* *Survey Type: MANUAL*

14 **NY-03-N-01** **RETIREMENT FLATS** **NORTH YORKSHIRE**
EASTGATE
PICKERING

Edge of Town
Residential Zone
Total No of Dwellings: 30
Survey date: MONDAY *26/09/16* *Survey Type: MANUAL*

15 **WF-03-N-01** **RETIREMENT FLATS** **WALTHAM FOREST**
SEWARDSTONE ROAD
WALTHAMSTOW

Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: TUESDAY *05/11/19* *Survey Type: MANUAL*

16 **WM-03-N-01** **RETIREMENT BUNGALOWS** **WEST MIDLANDS**
SHORT STREET
STOURBRIDGE

Edge of Town Centre
Residential Zone
Total No of Dwellings: 25
Survey date: TUESDAY *21/11/17* *Survey Type: MANUAL*

17 **WS-03-N-02** **RETIREMENT FLATS** **WEST SUSSEX**
FITZALAN ROAD
LITTLEHAMPTON

Edge of Town Centre
Residential Zone
Total No of Dwellings: 17
Survey date: TUESDAY *18/06/19* *Survey Type: MANUAL*

18 **WY-03-N-01** **RETIREMENT BUNGALOWS** **WEST YORKSHIRE**
GROVE AVENUE
HALIFAX
WHEATLEY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 34
Survey date: TUESDAY *23/10/18* *Survey Type: MANUAL*

TRIP RATE for Land Use 03 - RESIDENTIAL/N - RETIREMENT FLATS
TOTAL VEHICLES
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 58 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	18	42	0.028	1.605	18	42	0.022	1.299	18	42	0.050	2.904
08:00 - 09:00	18	42	0.074	4.279	18	42	0.069	3.974	18	42	0.143	8.253
09:00 - 10:00	18	42	0.087	5.043	18	42	0.096	5.578	18	42	0.183	10.621
10:00 - 11:00	18	42	0.111	6.419	18	42	0.109	6.343	18	42	0.220	12.762
11:00 - 12:00	18	42	0.104	6.037	18	42	0.090	5.196	18	42	0.194	11.233
12:00 - 13:00	18	42	0.096	5.578	18	42	0.091	5.273	18	42	0.187	10.851
13:00 - 14:00	18	42	0.100	5.808	18	42	0.097	5.655	18	42	0.197	11.463
14:00 - 15:00	**18**	**42**	**0.130**	**7.565**	**18**	**42**	**0.132**	**7.642**	**18**	**42**	**0.262**	**15.207**
15:00 - 16:00	18	42	0.084	4.891	18	42	0.088	5.120	18	42	0.172	10.011
16:00 - 17:00	18	42	0.079	4.585	18	42	0.070	4.050	18	42	0.149	8.635
17:00 - 18:00	18	42	0.079	4.585	18	42	0.086	4.967	18	42	0.165	9.552
18:00 - 19:00	18	42	0.058	3.362	18	42	0.071	4.126	18	42	0.129	7.488
19:00 - 20:00	1	40	0.000	0.000	1	40	0.000	0.000	1	40	0.000	0.000
20:00 - 21:00	1	40	0.000	0.000	1	40	0.000	0.000	1	40	0.000	0.000
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			1.030	59.757			1.021	59.223			2.051	118.980

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	17 - 88 (units:)
Survey date date range:	01/01/13 - 20/11/19
Number of weekdays (Monday-Friday):	18
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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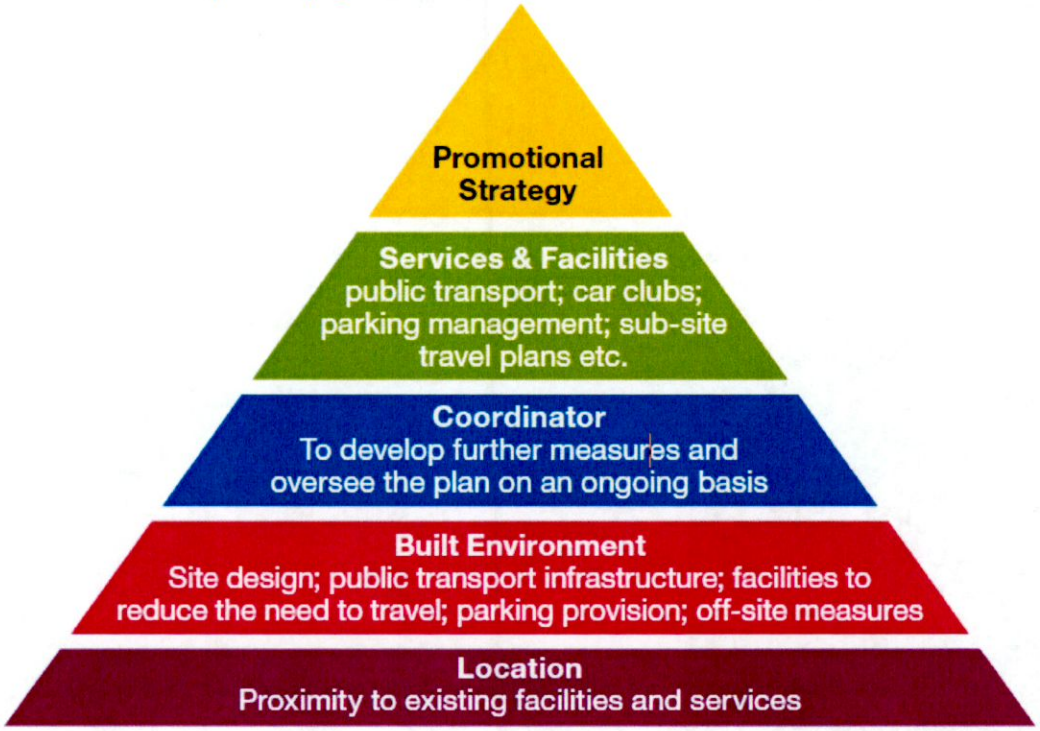
APPENDIX 3

TRAVEL PLAN PYRAMID

The travel plan pyramid



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APPENDIX 4

GDA CYCLE PLAN – SOUTH WEST SECTOR

3.6. Dublin South West Sector

The Dublin South West Sector extends outward from the twin corridors of Camden Street and Clanbrassil Street in the city centre, through the inner suburbs of Rathmines and Harold's Cross, to serve the areas of Terenure, Kimmage, Walkinstown, Tallaght, Firhouse and Rathfarnham. There is considerable overlap between the West and South West sectors, with interconnecting routes between the two. Some radial cycle routes originate in one sector at the city centre but end up in the neighbouring sector.

Refer to Maps E1, E6 and E7 in Part 2 for illustration of the existing main cycle routes in this sector. The existing cycle traffic flows in this sector are shown on Map DD3 in Part 7.

3.6.1 Dublin South West - Proposed Cycle Route Network

The cycle route hierarchy is shown on Maps N1, N6 & N7 in Part 4a.

Radial Routes in the Dublin South West Sector

Due to the peculiarities of the general road network in this sector, which lacks high capacity main traffic arteries unlike most of the rest of the city, the cycle route network is quite complex. The main cycle routes in this sector form a web of criss-crossing routes, with various spurs and cross links, as follows:

Route 7

Route 7E is a cross-link from the West sector into the South West sector. It branches off Route 7D on the Naas Road at Kylemore and follows Rooinhood Road through the Ballymount industrial area to **cross the M50 on a new bridge** between Junctions 9 and 10 at Ballymount Cross, and then outward through the areas of Kingswood, Belgard, Cookstown, Fettercairn and Cheeverstown at the northern edge of the Tallaght suburbs.

Route 8 from South Great George's Street via the Coombe area and Dolphin's Barn to the junction of Crumlin Road and Sundrive Road (Route SO2);

Route 8A follows Crumlin Road past the Children's Hospital, Bunting Road to Walkinstown, through Ballymount to cross the M50 at Junction 10 and out to Citywest / Fortunestown via Belgard;

Route 8B branches off Route 8A midway along Crumlin Road at Windmill Road and follows a slightly meandering route mainly along minor residential streets through Crumlin Cross and Greenhills to Tymon Park and onward to Tallaght via the outer end of the Greenhills Road. It is a much better alternative to the existing route via the very busy and intimidating Walkinstown Roundabout and the narrow section of Greenhills Road along the edge of the Ballymount industrial area; and

Route 8C from Donore Avenue south of Cork Street via Clogher Road and Kildare Road through the heart of the Crumlin residential district to Our Lady's Children's Hospital on Crumlin Road where it crosses Route 8A; then along Drimnagh Road and Long Mile Road to cross the Naas Road (at a very difficult junction), and then via Nangor Road to the Park West area, with two branches towards Palmerstown to the north and to outer Clondalkin further west

Route 9 towards Tallaght along Clanbrassil Street and through Harold's Cross, where it branches into two main spurs;

Route 9A follows Kimmage Road to the Kimmage Cross Roads (KCR), then Fortfield Road and Wainsfort Road to join the N81 Templeogue Road and onward out to Tallaght town centre. (The section of this route through Kimmage and Harold's Cross is poor for cyclists with minimal and part-time advisory cycle lanes. There is no scope for improvement due to the narrowness of the road and close proximity of buildings. A better alternative is available via the proposed *River Poddle Greenway* as described later, which follows closely parallel to the west of the road. West of the KCR the route improves considerably for cyclists with better cycle lanes or cycle tracks);

Route 9B splits from Route 9A at Harold's Cross and follows Terenure Road through Terenure Cross and then Templeogue Road through Templeogue Village to re-join Route 9A at Templeogue Bridge. This route provides inter-connection with Route 10 towards the southeast city centre via Rathmines;

Route 9C is an alternative to the Harold's Cross route from Route 8C at Clogher Road via Stannaway Road west of Kimmage and then along Wellington Lane to join Route 9A at Spawell to connect to Tallaght. It also provides a continuation from Route 9A west of Tallaght via Fortunestown and Citywest to Saggart;

Route 9D would provide a traffic-free option branching off Route 9A at Kimmage Cross Roads and following the *River Poddle* Greenway to Tymon Park where **a new bridge is required over the M50** in the centre of the park to connect with Castletymon Road and rejoin Route 9A. West of Tallaght it provides a loop through Jobstown along the N81 and then northward into Citywest; and

Route 10 from Camden Street through Rathmines, Rathgar and Terenure to Rathfarnham, where it splits into several branches. South of Rathfarnham there are 3 branch routes that extend southward through the surrounding suburban area to connect with Orbital Route SO6 along Grange Road and Taylor's Lane;

Route 10A turns south-westward along Butterfield Avenue (also on Route SO4) and runs parallel to the River Dodder to Firhouse and Oldcourt beside Old Bawn Bridge on Orbital Route SO6. Knocklyon Road and Ballycullen Road are local secondary routes that branch off southward at various points. There are also northward links across the River Dodder to Radial Route 9 at Spawell and Templeogue Bridge;

Route 10B follows Willbrook Road and Ballyboden Road southward;

Route 10C along Grange Road; and

Route 10D along Nutgrove Avenue for a short section and then turns south via Stonemason's way to Ballinteer.

Traffic data for the radial routes indicates peak period volumes ranging from about 800 cyclists on Route 10 at Rathmines Road, nearly 700 cyclists on Route 9 at Clanbrassil Street and 150 cyclists on both Route 8C at Clogher Road and Route 8A at Crumlin Road. Further out in the suburbs, the cycle traffic model indicates moderately strong demand of 200 to 400 cyclists on Routes 9 and 10 out to just beyond Rathfarnham and Templeogue. Otherwise there are fairly low flows in the range of 100 to 200 on the various secondary routes in the South West sector, and also on Primary Route 9 to Tallaght, which is about 10km from the edge of the city centre. There are likely to be more local trips on the various routes that are not reflected in the model.

Orbital Routes in the Dublin South West Sector

There are six orbital routes in this sector that provide cross-links between the radial routes and give access to destinations within this sector, and in the adjoining West and South Central sectors:

Route SO1: Grand Canal Route linking from Rialto eastwards via Harold's Cross Bridge and Portobello Bridge to the Dublin 2 and Docklands office district;

Route SO2: From Kilmainham in the northwest through Crumlin, Kimmage, Harold's Cross and Rathmines to Ranelagh and Ballsbridge via Sundrive Road, Kenilworth Road and Castlewood Avenue;

Route SO3: From Rathgar and Dartry to Milltown, Clonskeagh and Ballsbridge, mostly along the proposed *Dodder Valley Greenway*. This route links to UCD at Clonskeagh. There is a connection from Tallaght via Route 9A at Oldbridge Road in Templeogue;

Route SO4: from Dundrum, Churchtown and Nutgrove through Rathfarnham and Templeogue to Greenhills and Walkinstown;

Route SO5: Dundrum to Tallaght via Ballyboden and Knocklyon and Firhouse. It will require new permeability links between Nutgrove, Ballyboden and Templeroan. Otherwise the route could overlap with SO6 for a short section along Taylor's Lane; and

Route SO6: Dun Laoghaire to Tallaght via Ballycullen and Old Bawn.

Other Secondary Cycle Routes in the Dublin South West Sector

In addition to the numbered radial and orbital cycle routes named above, there are also several other local secondary cycle routes that extend the network across the wide suburban area. Examples are Ballyroan Road in the Rathfarnham area, Knocklyon Road, Ballycullen Road, Kiltipper Road and Cookstown Road with a link to Fortunestown Way in the Tallaght area. Route numbers are not proposed for these routes as they are of local function only and do not form part of the long distance cycle routes that extend across the wider city area.

Existing Permeability for Cyclists in the Dublin South West Sector

The cycle network maps N6 and N7 show where cyclists can permeate through blocks within the road network by using quiet streets and roads that do not require cycling facilities due to the low volume and speed of traffic. Most residential areas in the southwest are quite permeable with a dense network of local roads that provide many convenient route options for cyclists. This feature did give rise to some difficulties of inappropriate through traffic and traffic calming has been installed on many roads in areas such as Crumlin and Templeogue.

Where there are obstacles to permeability, there are several good examples of pedestrian and cycle links as follows:

- Cowper Link from Dartry to Sandford: This crosses the Luas Green line at the Cowper stop and follows quiet residential streets for form an orbital connection between the Dartry/Rathgar area at Highfield Road and Sandford Road in the southern part of Ranelagh;
- River Poddle crossing at Bangor Road: There is a footbridge that provides a link between the Crumlin area and Kimmage Road Lower;
- Templeogue Woods link to Templeogue Road and Cypress Grove Road; and
- In the outer areas of this sector, there are many open public green areas that enable walking and cycling links between housing estates. Good examples are in the areas of Cookstown and Fortunestown as shown on Map N6. Formal cycle tracks are proposed through these green areas with dished kerb accesses and toucan crossings of main roads such as shown in the following photograph.

Existing Greenways in the Dublin South West Sector & Problems at Public Parks

There are no formal greenways at present in the Dublin South West sector, although there is great scope to provide an extensive network of such traffic-free cycle routes through public parks and less formal open green spaces. South Dublin County Council has provided barriers at most entry points to certain parks in the county, which in some cases limit cyclists' access to an extensive network of parks with potential for pleasant and safe cycling away from traffic. The situation is similar in the older parts of this sector within the Dublin City Council area, such as at Eamonn Ceannt Park and Stannaway Park in Crumlin.

Route 9C: Barrier at Entrance to Eamonn Ceannt Park on Sundrive Road

The proposed cycle route network includes a suggested feeder cycle route along Stannaway Road and through Eamonn Ceannt Park to link to Secondary Radial Route 8C at Clogher Road. This would pass through the gate shown in the photo above.

A good example of cycle-friendly access is shown in the following photograph of the edge of Bushy Park alongside Templeogue Road where there is a formally designated shared footpath and cycleway.

Shared Walkway/Cycleway at Bushy Park, Templeogue Road, Terenure

3.6.2 Dublin South West - Proposals for Cycle Route Network Additions and Improvements

A cycle network study for the Tallaght area was previously prepared by South Dublin County Council (SDCC) in 2011. This study addressed the cycle access routes to the central county town of Tallaght and links towards Dublin City Centre. These proposals include the following key routes:

(a) New cycle facilities along parts of Radial Cycle Route 9A from Templeogue to Tallaght, and the N81 Blessington Road dual carriageway adjoining westward to the R136 Cookstown Road junction;

(b) Dodder Valley Greenway from Templeogue to Bohernabreena: a joint study (along with NTA, DCC and DLRCC) was completed in late 2012;

(c) Wellington Lane cycle route from Spawell to Templeville Road at Greenhills (Route 9C);

(d) Tallaght to Ballyboden cycle route along Old Bawn Road and via the Dodder Valley Park and Knocklyon with a new bridge across the River Dodder (Route SO5);

(e) Upgrades to Orbital Cycle Route SO6 between Scholarstown and Old Bawn via the Ballycullen area;

(f) Upgrades to Orbital Cycle Route SO5 along the Belgard Road between Tallaght and Clondalkin;

(g) Upgrades to Greenhills Road, which forms part of Radial Cycle Route 8B from Tallaght towards the city centre via Tymon Park and Greenhills. North of the M50 bridge crossing Greenhills Road becomes very narrow and bendy with increasing frontage constraints nearer to Walkinstown. This section of road is proposed as a feeder route only, with a better through route 8B available to the south that avoids the very busy Walkinstown Roundabout;

(h) Upgrades along Whitestown Way and Cookstown Way, a local Secondary Cycle Route that passes just west of Tallaght Town Centre;

(i) Jobstown Stream Greenway from Sean Walsh Park on Old Bawn Road through the Killinarden area to Jobstown;

(j) New cycle facilities and upgrades along the Route 9C at Fortunestown Way/Lane towards Saggart; and

(k) Improvements on Orbital Route SO6 at Kingswood Interchange on the N7 Naas Road crossing (linking to Radial Routes 7C and 7D).

The current proposals by Dublin City Council for additional or improved cycle routes in this sector consist of the following:

(a) Grand Canal Greenway extension westward from Portobello Bridge to Blackhorse;

(b) New cycling facilities along Radial Cycle Route 8C from South Circular Road along Clogher Road and Kildare Road to Crumlin Hospital;

(c) Improvements to cycle lanes along Bunting Road (Route 8A) from Crumlin Hospital to Walkinstown Roundabout;

(d) New cycle facilities along Orbital Route SO4 from Walkinstown Roundabout to Kylemore and Ballyfermot;

(e) Upgrades to Radial Cycle Route 9B along Harold's Cross Road, Terenure Road and Templeogue Road; and

(f) Upgrades to Radial Cycle Route 10 along from Portobello Bridge on the Grand Canal along Rathmines Road and Rathgar Road to Terenure Cross.

Additional Cycle Route Network Proposals

A gap analysis has confirmed that the existing local authority proposals are quite comprehensive and there is limited need for significant additions to the proposed cycle network in this sector as follows:

(a) Missing section of Radial Route 10A along Butterfield Avenue to Rathfarnham as an extension of the existing cycle tracks along Firhouse Road;

(b) Radial Route 9D along the Blessington Road from Jobstown westwards to Citywest;

(c) Radial Route 8A from Fortunestown to Walkinstown: Complete missing sections and upgrade this route that crosses the M50 at Junction 10, Ballymount, for access to the major employment area;

(d) New traffic-free cycle crossing of the M50 on route 7E from Ballymount to Clondalkin and Belgard;

(e) Radial Route 8B from Tallaght to Greenhills and Crumlin via Tymon Park (New radial route to bypass Walkinstown Roundabout);

(f) Tallaght Town Centre Cycle Network; and

(g) Local route permeability in Tallaght through large blocks of industrial estates:

(i) Mayberry Road Link to Broomhill Road, which connects to Airton Road, into the grounds of I.T. Tallaght and through to Tallaght Village centre;

(ii) Belgard through Cookstown Industrial Estate to Tallaght Hospital and onward to Tallaght Town Centre at Belgard Square North, plus an eastward spur to Airton Road via the Belgard Retail Park; and

(iii) Kingswood to Ballymount Link across the M50 on a new bridge.

New Greenways in Dublin South West Sector

The following new greenway routes are proposed in the Dublin South West Sector so as to avail of the natural corridors for a mix of amenity and commuter cycling:

(a) ***Dodder Valley way:*** This major greenway will extend for a distance of 18km from the City Centre at the Docklands south-westwards to the Dublin Mountains at Bohernabreena.

(b) **River Poddle way & Tymon Park Greenways**

Alternative for Radial Route 9A/9D that is severely constrained in the Harold's Cross and Kimmage areas due to the narrow road corridor. The river corridor is mostly open and accessible between Mount Argus in Harold's Cross and Tymon Park between Greenhills and Tallaght. At Tymon Park there are numerous possibilities for link routes into the surrounding residential areas, with crossings of the M50 on two existing footbridges and one new bridge.

River Poddle at Kimmage Manor

(c) **Jobstown Stream Greenway**: along a tributary of the River Dodder just west of the M50 at Junction 11 and extending westwards for 5km through the southern part of the Tallaght areas of Killinarden and Jobstown to Fortunestown.

(d) **Western Parkway Greenway**: Orbital greenway for cycling along the M50 motorway corridor from the Dodder Valley way at the southern end to the Grand Canal way at the northern end. This route would also provide a second connection between the Tallaght area and the Clondalkin area as an alternative to the busy traffic route of Belgard Road.

(e) **Slade Valley Trail**: a potential route southward from the villages of Rathcoole and Saggart along the upper reaches of the Camac River to Brittas at the edge of the Dublin Mountains. This route is an alternative to the very busy N81 Blessington Road and opens up access to a network of quiet rural roads in West Wicklow.

Bike & Ride to Public Transport Corridors in the Dublin South West Sector

The main radial public transport corridor in the western part of this sector is the Luas Red Line light rail service that extends from the city centre to Tallaght, with a branch from Belgard westwards to Saggart. This light rail line runs generally parallel to Radial Cycle Routes 7B, 7D and 7E. There is a small number of cycle parking stands at each light rail stop, but these lack shelter. Each light rail stop is comfortably accessible by bicycle with cycle tracks along busy access routes, or quiet local roads to stops like Kingswood and Cookstown. At all locations, cycle parking quantum and security will need to be assessed.

In the eastern part of this sector, the main public transport services are bus routes through Terenure and Kimmage. Cycle parking is not provided at bus stops along these routes. Consideration should be given to provision of a few cycle parking stands at key stops along these routes close to intersections with designated main cycle routes.

Rural Cycle Links from the Dublin South West Sector

National Cycle Network Routes in the Dublin South West Sector

Long-distance National Cycle Route No.10 will link Dublin to Cork and Waterford via Kilkenny as outlined in the National Cycle Network (NCN) Scoping Study published in 2010. While no formal route selection studies have yet been undertaken for this route, it is reasonable to assume that it may follow the Grand Canal towpath in the Dublin and north Kildare area because of the very high quality existing facility that is already in place from the city out to Adamstown, which will coincide with Dublin Radial Cycle Route 7B.

Cycle Routes to Rural Towns and Villages in Southwest Dublin

The nearest large towns beyond the Dublin area in this sector are Naas in County Kildare and Blessington in County Wicklow. There are several villages between these towns and the edge of Dublin at Tallaght. Two main routes extend in a south-westerly direction from the city towards these towns as follows:

(a) **Naas Route**: From Naas, cyclists have a choice of two routes to get to Dublin. The most attractive route in terms of Quality of Service will be along the Grand Canal way at Sallins, once it is paved for National Cycle Route 9, even though this is slightly the longer of the two options. The more direct route is generally along the corridor of the existing N7 Naas Road, the main traffic route to the city. This main road is currently unsuitable for cyclists as, apart from the M50 motorway, it is the busiest national route in the country with a high-speed dual 3-lane carriageway and mostly grade-separated junctions.

Cyclists are currently better off following an alternative route via parallel local roads from Naas through the villages of Johnstown and Kill, where there is a good quality shared cycleway/footway provided between the urban areas. East of Kill the local road network is of a lesser quality, without cycle tracks, and deviates southward away from the Naas Road. Traffic volumes are low, however, and cyclists can follow these rural roads towards the Dublin suburb of Rathcoole via the Kiltiel Road. This route is shown on the proposed Inter-Urban Cycle Routes Map Sheet RN5 as K4/K14 from Kill to the Dublin County Boundary and then on Map RN10 as D5 into Rathcoole and Saggart, where it connects with Route 8A towards Dublin city via Ballymount, and Route 9C towards Tallaght and the city via Terenure.

(b) **Blessington Route**: The direct route from Tallaght to Blessington is along the N81 national secondary road, which is a very poor route to cycle because of heavy traffic and lack of hard shoulders for much of the distance in the section between Jobstown and Brittas. A large amount of construction material is supplied from the Blessington area to the Dublin market and there is a significant number of trucks hauling gravel and concrete products along the N81 route. A better route to Blessington is proposed via the R114 regional road that extends from Firhouse via Bohernabreena and over the Ballinascorney Gap. This route is shown on the proposed Inter-Urban Cycle Routes Map Sheet RN8 as W18 through Kilbride to the Dublin County Boundary and then on Map RN10 as D5 into Oldbawn and Firhouse, where it connects with the *Dodder Greenway* or Route 10A towards Dublin city via Rathfarnham.

(c) **Saggart / Rathcoole / Newcastle**: These 3 villages at the south-western edge of the city have grown substantially in recent decades and now form moderately significant dormitories. There is also a large logistics and warehouse park at Greenogue between Rathcoole and Newcastle that attracts trips by staff as well as numerous truck movements. Rural cycle route D5 is shown on Map RN10 as a link between these 3 satellite settlements along the R120 road and onward via city Route 8A to the greater Tallaght area at Fortunestown. This route continues north-westward along the R405 road from Newcastle to Hazelhatch railway station on the Dublin to Cork line, and from there connects into Celbridge in County Kildare. Route D6 links Newcastle north-eastward along the R120 road to Grange Castle and onward to either Clondalkin via Route 8C2 or to Lucan via Route SO7. These two regional roads (R120 and R405) are not comfortable for cycling due to narrow carriageway, bendy alignment and busy traffic including many trucks. Segregated cycle tracks would be required.

Cycling Access Routes to the Dublin Mountains

This sector is bounded to the south by the Dublin Mountains and includes the area of foothills at the northern and north-western side of the mountains. The mountains attract large numbers of recreational cyclists, especially at weekends, who enjoy the challenges of the steep climbs, quiet roads and rugged weather conditions.

Access for cyclists to the mountains is principally available on 3 routes in addition to the Blessington Route at Ballinascorney Gap:

(a) Upper Dodder Valley, Glenasmole;

(b) The *Military Road* from Rathfarnham along the spine of the Dublin and Wicklow Mountains through the Sally Gap to Laragh and beyond. This is shown as Route D2 on Map RN10; and

(c) The Rockbrook Route is a variation on the Route D2 Military Road that is less direct and carries less traffic. There is a branch eastwards to Glencullen that allows a shorter return route to the city via Kilternan or Stepaside in the South East sector. This is shown as Route D2a on Map RN10.

These routes can be combined as a parallel *Dublin Mountain Cycleway* that follows roughly the same line as the *Dublin Mountain Way* walking route. It could form a great loop for a cycling day trip from Dublin City to the mountains via the Dodder Valley (18km), across the northern edge of the mountains to the sea at Shankill (30km) and then back to the city along the East Coast Trail (18km) to make an overall trip of roughly 70km. This is shown as Route D4/D3/D5 on Map RN10. In the westward direction Route D5 extends from the mountains towards Kildare and the village of Rathcoole.

3.6.3 Dublin South West Sector - Existing Quality of Service

The existing Quality of Service (QoS) was assessed for the primary cycle routes and a sample of the secondary routes in the Dublin South West sector. The QoS is mostly in the range of D and C in the eastern and older parts of this sector. There are extensive lengths of QoS level B on the newer roads in the southern and western areas, mostly along the lightly used orbital routes.

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APPENDIX 5

BUS CONNECTS – NEWCASTLE AND RATHCOOLE

Maps E11, P11: Newcastle and Rathcoole

Rathcoole

Rathcoole would be served by both a peak and all-day radial route, similar to existing Routes 69 and 69x:

- **Route 93 from Rathcoole to Dublin Port.** All-day service, every 60 minutes. This route would start at the existing 69 terminus in Rathcoole, and head from there to Saggart, Citywest and Clondalkin on the way to City Centre.
- **Route 393 from Rathcoole to City Centre.** Peak-only express service, similar to Route 69x, but with a second trip added in the morning in response to observed loads.

The eastern half of Rathcoole would also be near the orbital **Route W8**, described below.

Newcastle and Greenogue

Newcastle would be served by two all-day routes and one peak-only express:

- **Route W8 from Maynooth to Tallaght.** All-day service, every 30 minutes. This route would provide a new regular link to Maynooth, Celbridge and Hazelhatch Station to the north, and to Saggart, Citywest and Tallaght to the south.
- **Route 256 from Greenogue Business Park to Red Cow.** All-day service, every 60 minutes. This route would replace existing Route 68, but would terminate at Red Cow instead of City Centre.
- **Route 356 from Greenogue Business Park to City Centre.** Peak-only express service, similar to existing Route 68x, but with a new evening return trip added.