Cherrywood Strategic Development Zone

Parking Advice Update

Dún Laoghaire-Rathdown County Council

May 2023

Delivering a better world

Quality information

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Executive Summary

Dún Laoghaire-Rathdown County Council (DLRCC) has commissioned AECOM to undertake a review relating to the level of parking provision provided within the Cherrywood Strategic Development Zone (SDZ). The review has been undertaken across a number of key themes:

Policy Context

The Irish Government has committed to a legally binding target of net zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030 as outlined in the Climate Act 2021.

Transport will therefore have a significant role in delivering future carbon reductions, and it is important to understand that the decarbonisation of vehicles will not solely achieve the reductions required. The Governments Climate Action Plan 2021 Report acknowledges that change will have to occur through a combination of low carbon technologies and societal and behavioural changes.

Sustainability is a key theme in the over-arching national, regional and local policies which includes strategic frameworks to support modal shift through infrastructure, service improvements and demand management and behavioural change measures. It is also identified that future development should be planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes.

The over-arching policy context presents a strong rationale for a reduction in car parking standards in particular the GDA Transport Strategy which outlines that residential parking standards should be set at the lowest provision in areas with high levels of accessibility by sustainable transport modes such as Cherrywood SDZ. Policy also outlines that provision of sustainable transport should not compromise people's safety or the built environment. There are also policy considerations with respect to the site's proximity to the M50 and the need to protect the operation of this nationally significant infrastructure.

Therefore as outlined within key policy documents, demand management must be underpinned by infrastructure and realistic choices to encourage behavioural change towards sustainable modes.

County and City Development Plan (CDP) Review

A review of relevant CDPs presents strong rationale for reduction in car parking standards across all housing types.

In comparing Cherrywood parking standards to DLRCC, Dublin City, South Dublin, Fingal and Sandyford it was apparent that whilst Cherrywood standards have already been reduced and are currently lower than the DLRCC and Dublin City standards for one bed units, the standards are generally higher in comparison to those outlined in the reviewed CDPs particularly for larger units.

All of the reviewed CDPs outline parking standards as a maximum (with the exception of DLR CDP Zone 2 which are considered as the standard for residential units) with flexibility criteria applicable on a case-by-case basis which is not currently applicable in Cherrywood.

It is therefore proposed to reframe Cherrywood residential parking standards as a maximum. Flexibility will be provided for studio apartments as currently outlined within the Planning Scheme documents and flexibility to the proposed maximum standards will only be permitted under exceptional circumstances.

Best Practice Review

In order to benchmark Cherrywood parking standards against other locations and similar development types, a best practice review was undertaken to compare to other SDZs in the Dublin area as well as other locations in the UK and RoI,

European examples of similar development types i.e. new urban districts show a more aggressive approach to parking standards with ratios ranging between 0.3 to 0.7 spaces per housing unit. The premise of the reduction is based on proximity to high quality public transport and the provision of other sustainable modes on site for use by residents.

The review of best practice is considered to provide mixed rationale for a further reduction in current standards, as European examples show allocation of less than 1 space per unit which is unallocated and also unbundled, however current Cherrywood standards generally lower in comparison to the reviewed UK & other RoI examples.

Planning Decisions

A review of residential planning applications granted since the enactment of both the Large-scale Residential Development (LRD) and the adopted DLRCC CDP i.e. June 2022 and also applications with lower than recommended parking standards as approved by An Bord Pleanála (ABP) presents strong rationale for a reduction in standards particularly for 1-bed units.

On average the approved ABP parking ratios are 36% (weighted average) lower than those recommended for 1-bed units, with lower parking ratios granted based on the DLR CDP flexibility criteria. However, Development Management appear to have adjudicated consistently in recent residential applications with regards to ratios outlined in the CDP while also providing flexibility where location and sustainable transport modes are prevalent.

Car Ownership

Historical analysis of census data relating to car ownership from 2011 and 2016 has shown that whilst both Cherrywood and DLRCC experienced a marginal decline in the average number of cars per household, the total number of cars in Cherrywood remained consistent and the average number of cars per adult increased.

In Cherrywood, the number of households with one car increased by 2.2% p.a. whilst the number of no car households decreased by 3.9% p.a. between 2011 and 2016.

It is considered that this historical analysis of car ownership in Cherrywood and the wider DLRCC area does not account for the significant policy and societal changes that have occurred since then such as the pandemic, change in attitudes to sustainable modes, cost of living crisis and net zero climate targets.

There has been a significant shift in policy following the Irish Government's commitment to achieve net zero and the focus in relation to transport is sustainability and behavioural change. As outlined in the GDA Transport Strategy, sustainable infrastructure and demand management are central to the future transport system providing quality of travel for all, of which reduced parking standards plays a role.

Census 2022 car ownership data will be available mid-2023 and may provide a different picture on car ownership within both Cherrywood and DLRCC. As such further analysis will be required once the data is available.

Overall, considering historical car ownership in isolation does not present a strong rationale for a reduction in parking standards; however considering a number of contextual factors and recently published policy, it is considered that a mixed rationale exists for a reduction in parking standards,

and as such further analysis is recommended upon the publication of more recent Census data in 2023.

Travel Trends 2021

The Department of Transport's Transport Trends 2021 paper provides an overview of Ireland's transport sector. Key statistics indicate that whilst Ireland has low car ownership in comparison to other European states, the total number of licensed vehicles in Ireland has been steadily increasing from 2.7 million in 2017 to 2.86 million in 2020.

The number of new vehicles licensed was steadily decreasing between 2016 and 2020, however this has also bounced back in 2021 with a 22.2% increase from 2020 of which 75% were new private cars.

Therefore it is considered that the recent travel trends in Ireland present mixed rationale for a reduction in residential parking standards as private car ownership is lower in Ireland compared to other European states however the total number of licensed vehicles is increasing and has been systematically doing so since 2017.

Covid Research and Cost of Living Crisis

The COVID-19 pandemic affected all forms of transport, the imposed lockdowns forced the public to rethink whether they needed to travel i.e. if it was essential to do so, as well as how they travel due to the limited availability of services.

However, this is now combined with the current cost of living crisis (early mid 2022) which is forcing people to re-think whether a car is affordable to run due to increased fuel and running costs, but it remains to be seen whether this will impact in the longer term on car ownership itself.

Uncertainty exists on whether the impacts of the pandemic and the current cost of living crisis will lead to long term change. There is also a high level of uncertainty surrounding recovery from the pandemic for policymakers and how this will shape future development and provision of services. Therefore over-arching policies are responding to the need to work towards net zero commitments, underpinned by the change in attitudes to active travel and sustainable modes as shown during lockdowns and the pandemic.

As such it is considered that a mixed rationale for a reduction in parking standards can be determined due to the high level of uncertainty regarding long term change and considering the current research in tandem with overarching policy i.e. building upon the change in attitudes to sustainable modes.

Revised Standards

It is considered that the current Cherrywood residential parking standards should be reduced in order to align with over-arching policy, recent planning decisions and other Dublin Councils.

Therefore the following maximum standards across all housing typologies will apply:

- 1-bed units – 0.5 spaces per unit
- 2-bed units – 0.75 spaces per unit
- 2-bed houses – 1.0 space per unit
- 3-bed units – 1.25 spaces per unit
- 3/+ bed houses – 1.5 spaces per unit

Currently parking rates for studios within Cherrywood can be reduced to between 50 and 70% of the current rate; as outlined on Page 46 of Chapter 4 of the Cherrywood Planning Scheme.

This provision for studio apartments will be retained as it is currently. Therefore, the parking standards range available for studio apartments is between 0.25 (50%) and 0.15 (70%) spaces per unit.

In light of the revised maximum standards, it is also considered that it will be essential for developers to commit to supporting sustainable travel demand within the Planning Scheme; therefore enabling realistic options for residents in light of the reduced parking standards.

Therefore, developers must provide a detailed submission outlining all aspects of proposed sustainable transport infrastructure and management proposals which will enable Cherrywood to enforce change and provide realistic options for residents.

1. Introduction

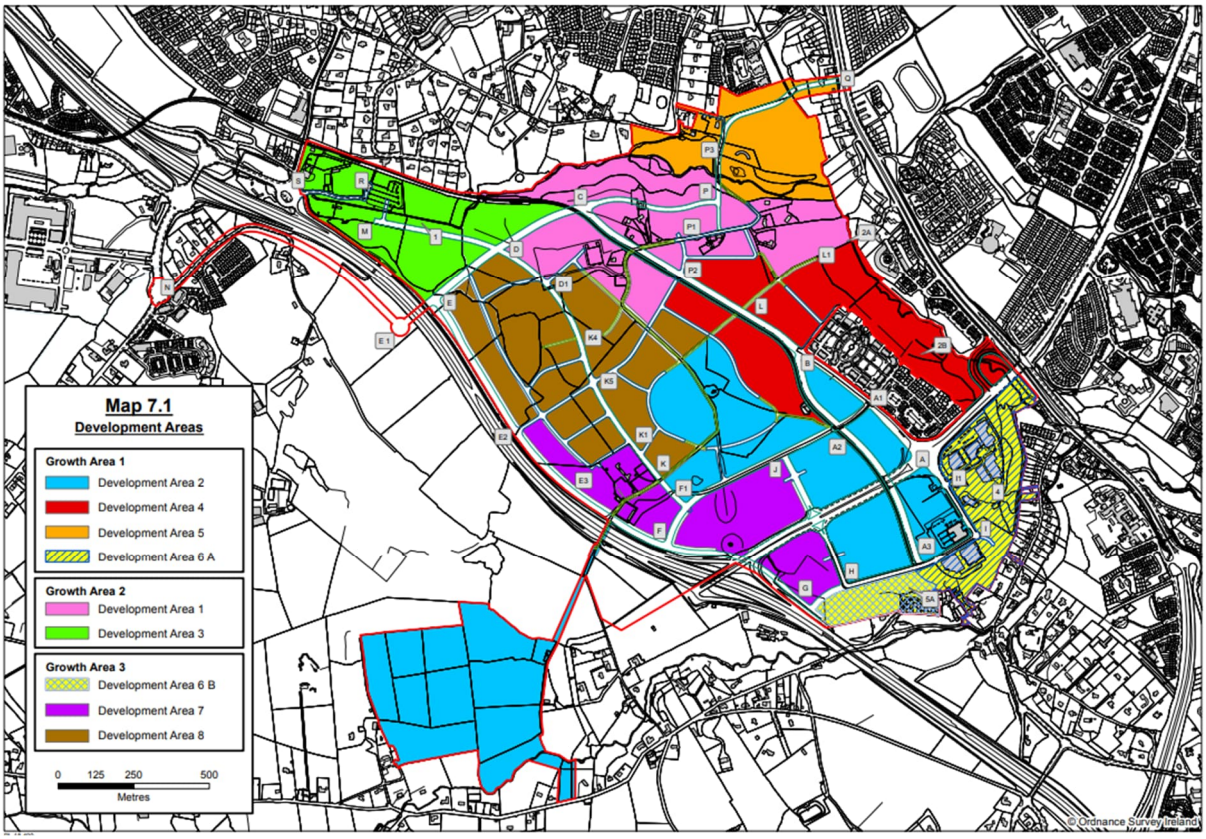
Dún Laoghaire-Rathdown County Council (DLRCC) has commissioned AECOM to undertake a review relating to the level of parking provision provided within the Cherrywood Strategic Development Zone (SDZ). The level of parking provision provided is of key consideration going forward as development continues at Cherrywood and in light of the recently adopted DLRCC County Development Plan 2022 - 2028.

1.1 Background

Cherrywood was designated as an SDZ in May 2010 by Government Order on behalf of DLRCC. The SDZ contains around 360ha of development lands located around 16km south-east from Dublin City Centre. The lands are bounded to the south by the M50, to the east by the M11/N11 and to the north by the Brennanstown Road.

The Cherrywood SDZ is comprised of eight development areas which have been grouped into three primary growth areas, as shown in Figure 1.1. The development has been designed in such a manner that development cannot proceed in the absence of identified educational, open space and transportation infrastructure.

Figure 1.1. Cherrywood SDZ Development and Growth Areas



1.2 Report Chapters

This report is comprised of the following chapters:

- Chapter 2 undertakes a 'health check' of the previous 2018 AECOM Cherrywood SDZ Parking Advice study.
- Chapter 3 provides an overview of the current car parking standards as set out in relevant County Development Plans and also Cherrywood SDZ Planning Scheme. It also reviews the parking provision provided by current planning applications within Cherrywood.

- Chapter 4 provides a review of a recent SMART car parking strategy developed by ARUP for Cherrywood on behalf of landowners,
- Chapter 5 provides an overview of best practice examples in relation to parking standards including UK, RoI and European examples. A review of parking standards in other SDZs in and around Dublin have also been considered.
- Chapter 6 considers car ownership trends and demographics within the Cherrywood SDZ as well as the wider Council area.
- Chapter 7 considers the impact of the Covid-19 pandemic on travel choices through a review of published research.
- Chapter 8 outlines potential options relating to car parking sets out the pros and cons of potential parking solutions identified specifically for the Cherrywood SDZ
- Chapter 9 details a summary of the rationale used to determine the proposed recommendations and revisions to the standards developed as a result of this study.

2. Cherrywood Parking Health Check

2.1 Introduction

In 2018, the Council appointed AECOM to undertake a review of proposed parking facilitates within Cherrywood, with a view to providing advice as to whether any intervention was required to bring the development in line with recently published guidance at the time. This included the Sustainable Urban Housing: Designed Standards for New Apartments and Guidelines for Planning Authorities published by the Department of Housing, Planning and Local Government in March 2018 taking cognisance of further technical updates in 2020 and again in 2022.

A 'health check' of the 2018 'Cherrywood Strategic Development Zone (SDZ) Parking Advice' AECOM study has been undertaken to ensure that the interventions recommended in 2018 to bring the Cherrywood development in line with published parking guidelines are still relevant and appropriate particularly in light of revised over-arching national, regional and local policy context.

2.2 2018 Cherrywood SDZ Parking Advice

2.2.1 Car Parking Standards

The 2018 study reviewed car parking standards set out in the Dún Laoghaire Rathdown County Development Plan 2016 – 2022 and the Cherrywood Planning Scheme, as well as indicative parking practices employed in cities throughout Ireland and the UK.

2.2.2 Car Ownership

The 2018 study identified that the DLRC area has a high car ownership rate of 621 cars per 1,000 adults, which is likely linked to the socio-economic demographics of residents in the Council area.

The 2018 study utilised data from the 2016 Census which showed that the average number of cars per household within the DLRCC area varies from 0.2 – 2.4 cars and likely reflects the increased distance from the city centre, development density and availability of public transport options.

To further evaluate how the calculated rate of proposed parking space provision compared with actual rates of car ownership within the proposed Cherrywood SDZ, the study utilised several car ownership surveys conducted within Dublin. The average for the DLRCC area was noted as 1.4 cars per household.

2.2.3 Car Parking Requirements

From the design of Cherrywood and its focus on sustainable modes, including the development of greenways, bus priority routes and an extension to Luas Line, the 2018 study highlighted that car ownership rates in Cherrywood can be expected to be lower than those in DLRCC as a whole.

The 2018 study recommended reducing the number of car parking spaces provided for all residential unit types and providing a minimum of 0.01 shared car spaces per unit in line with other studies and guidance which suggested that a shared car can replace around 10 – 20 private cars.

The study also recommended that opportunities for the development of surface car parking to accommodate the short-term parking needs of residents/employees should be investigated to allow for future repurposing of parking for other uses. This is likely to be possible due to technology and digitalisation of the shared mobility network, as well as changes to working preferences in the future.

Recommendations regarding a lower rate of car parking provision for studio apartments in Cherrywood was also outlined in the 2018 study i.e. a reduction of 50 – 70% of the rate applied to 1-bed apartments. Studios are a relatively new concept in Ireland; however UK research suggests

that demand for car ownership is lower amongst studio occupants as they tend to be younger, single and have lower incomes in comparison to typical occupants of 1-bed apartments in the same development.

2.3 Summary

Recommendations from the 2018 study regarding a lower rate of car parking spaces for residential developments, the introduction of shared car spaces and a reduction in parking rates for 1-bed studio apartments have since been adopted by the Cherrywood SDZ Planning Scheme as outlined in Section 3.5 of this report.

As such, the purpose of this study is to further review the adopted revised standards in regard to the changing policy context at a national, regional and local level.

3. Context

3.1 Introduction

This section provides an overview of national, regional and local policy including the residential car parking standards set out within relevant County Development Plans , as well as the current parking standards of the Cherrywood SDZ Planning Scheme as per the approved Amendment No.6 (January 2020).

3.2 Policy Context

There are a number of over-arching national, regional and local policies which set the context for a shift to more sustainable modes of transport and the impact of this on future growth and development in Ireland. The Irish Government has committed to a legally binding target of net zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030 as outlined in the Climate Act 2021.

Transport will therefore have a significant role in delivering future carbon reductions, and it is important to understand that the decarbonisation of vehicles will not solely achieve the reductions required. The Governments Climate Action Plan 2021 Report acknowledges that change will have to occur through a combination of low carbon technologies and societal and behavioural changes.

3.2.1 Project Ireland 2040 – National Planning Framework

The Climate Action Plan for transport will support and build from key national policy plans that aim to drive the necessary changes including Project Ireland 2040 - the National Planning Framework and the Sustainable Mobility Policy.

The National Planning Framework sets out the Government's high level strategic vision for shaping future growth and development in Ireland up to 2040. This framework is now considered the over-arching policy document directly relevant to the regional and local planning authorities and it utilises a set of shared goals i.e. National Strategic Outcomes.

Sustainability is a key theme within the National Planning Framework with three of the ten National Strategic Outcomes detailed as enhanced regional accessibility, sustainable mobility and transition to low carbon and resilient society. Chapter 6 of the NPF entitled 'People, Places and Communities' acknowledges that location and place have an important influence on the quality of life that people enjoy.

The key role that land use planning plays in progressing climate change mitigation and adaptation is at the forefront of the National Planning Framework.

3.2.2 Project Ireland 2040 – National Sustainable Mobility Policy

The Sustainable Mobility Policy sets out a strategic framework to 2030 for active travel and public transport to support Ireland's climate commitments. The policy outlines three principles in order to make it easier for people to travel by more sustainable modes including green mobility, people focused mobility and better integrated mobility. The policy aims to support modal shift between now and 2030, through infrastructure and service improvements as well as demand management and behavioural change measures.

3.2.3 Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region (2019-2031)

The Regional Spatial and Economic Strategy for the Eastern and Midland Region (RSES – EMR) aims to support the implementation of Project Ireland 2040 by providing a long-term strategic planning and economic framework for the development of the eastern and midland region. It includes a

number of regional policy objectives including RPO5.3 which outlines that future development should be planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes.

The RSES is underpinned by three cross-cutting principles; healthy placemaking; climate action; and economic opportunity. Sixteen Regional Strategic Outcomes (RSOs) are set out which are broadly align with the National Strategic Outcomes of the National Planning Framework, the United Nations Sustainable Development Goals, EU, and other national policies,

The RSES also identifies key 'growth enablers' to support the Region in meeting its potential. The recommended 'growth enablers', as relevant to DLR, include the following:

- Align Population, Employment and Housing Growth - Promote sustainable growth in the right locations that reduces the distance between the places people live and work.
- Compact Sustainable Growth - Promote compact, sequential and sustainable development of urban areas. Promote active land management and better use of underutilised, brownfield and public lands.
- Regeneration and Development – Identify significant ready-to-go regeneration projects in existing built-up areas.
- Economic Growth - Harness opportunities for economic growth by supporting synergies

3.2.4 Smarter Travel – As Sustainable Transport Future: A New Transport Policy for Ireland 2009 - 2020

The Smarter Travel policy sets out national policy in relation to sustainable transport over the period 2009 to 2020; despite now being beyond the policy horizon, this document is still considered Government policy until updated by the Department of Transport.

The policy includes five key goals including:

I. To reduce overall travel demand

II. To maximise the efficiency of the transport network

III. To reduce reliance on fossil fuels

IV. To reduce transport emissions

V. To improve accessibility to transport

To achieve these goals the government set out a number of targets including

- Future population and employment growth will predominantly take place in sustainable compact forms, which reduce the need to travel for employment and services.
- 500,000 more people will take alternative means to commute to work to the extent that the total share of car commuting will drop from 65% to 45%.
- Alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work.
- The total kilometres travelled by the car fleet in 2020 will not increase significantly from current levels.
- A reduction will be achieved on the 2005 figure for greenhouse gas emissions from the transport sector.

In order to achieve a sustainable transport system, a suite of actions are required that will have complimentarily impacts in terms of travel demand and emissions. The policy sets out 49 actions however they can be grouped in to the following over-arching policy actions

- Actions to reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment and the use of pricing mechanisms or fiscal measures to encourage behavioural change
- Actions aimed at ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking,
- Actions aimed at improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies
- Actions aimed at strengthening institutional arrangements to deliver the targets.

3.2.5 DLRCC Climate Change Action Plan 2019-2024

The Council's Climate Action Plan features a range of actions across five key areas including energy and buildings, transport, flood resilience, nature-based solutions and resource management.

In relation to transport there are three key actions including electrification of Council fleet, supporting sustainable travel and development of cycle routes and accessible footways.

There are a number of transport related actions that are currently budgeted for by DLRCC including:

- T2 - Reduce parking to provide for sustainable travel alternatives
- T4 - Develop and expand the County walking network
- T6 - Permeability and connectivity in planning process
- T7 - Develop and extend cycle network
- T10 - Develop a County bike sharing scheme
- T11 - Cycle parking in public realm
- T14 - Expand the bus network in the County
- T15 - Expand rail network in the County
- T16 - Expand car clubs in the County
- T17 - Expand EV network in the County

3.2.6 National Transport Authority - Greater Dublin Area Transport Strategy 2022-2042

The National Transport Authority (NTA) Greater Dublin Area (GDA) Transport Strategy provides a framework for the planning and delivery of transport infrastructure and services within the GDA from 2022 to 2042. It also provides transport planning policy that allows other areas of land use planning to align their own investment priorities.

The strategy has been developed to be consistent with the spatial planning policies and objectives as set out in the RSES; which are also consistent with the National Planning Framework and National Development Plan as set out in Project Ireland 2040.

In order to support the delivery of the overall aim of the Transport Strategy, four objectives have been developed comprising:

1. An Enhanced Natural and Built Environment

To create a better environment and meet environmental obligations by transitioning to a clean, low emission transport system, increase walking, cycling and public transport use, and reducing car dependency.

2. Connected Communities and Better Quality of Life

Enhance the health and quality of life for our society by improving connectivity between people and places, delivering safe and integrated transport options, and increasing opportunities for walking and cycling.

3. Strong Sustainable Economy

Support sustainable economic activity and growth by improving the opportunity for people to travel for work or business where and when they need to and facilitating the efficient movement of goods.

4. An Inclusive Transport System

Deliver a high quality, equitable and accessible transport system, which caters for the needs of all members of society.

There are a number of measures which the NTA set out within the strategy that are considered to be essential in order to meet the objectives of the Transport Strategy, to foster sustainable development and to fully integrate land use planning and transport planning. The measures are as follows:

1. Policy Concepts in Transport and Land Use Planning
2. The Road User Hierarchy
3. Housing and Transport
4. Consolidated Development
5. Retail Development
6. Office Developments
7. Transit Oriented Development
8. Mixed Uses
9. Filtered Permeability
10. School Site Selection
11. Location of Schools
12. Design of Schools
13. Road Network Serving Schools
14. Urban Design in Major Infrastructure Projects
15. Urban Design in Walking ad Cycling Projects
16. Reallocation of Road Space
17. Local Transport Plans

The Transport Strategy refers to the Cherrywood SDZ specifically in relation to Measure TM5 – Retail Development and outlines that support will be given to retail developments which form part of major residential developments, including Cherrywood.

Furthermore Cherrywood SDZ is also highlighted in Measure TM7 – Transit Oriented Development which is a concept that links levels of accessibility to development density. Cherrywood SDZ is noted to be a transit orientated development in that a major part of the transport demand will be serviced by Luas and bus.

In relation to traffic management and travel options, the strategy outlines that the planned development for the public transport network, the growth of cycling, and emergence of shared mobility could feasibly facilitate reduced car ownership rates across the GDA and an associated reduced demand for car parking.

The strategy outlines a number of demand management proposals including the introduction of restrictive parking standards. These standards are particularly restrictive in Dublin City Centre due to its high accessibility to destinations by non-car modes and also in key towns in the region or areas where the public transport and active travel systems offer alternatives to the car.

The strategy highlights that car parking (alongside other planning policies) can critically influence:

- Car ownership
- Mode choice for a range of journey purposes
- Residential development densities in cities and towns
- Development layouts which achieve permeability for walking and cycling, enabling non-car accessibility at a local level
- Car-based congestion
- The achievement of higher levels of public transport service provision

The approach is for local authorities to pursue the following in relation to parking standards:

- To seek the lowest level of provision for the most accessible areas and offer more flexibility where public transport connectivity is less comprehensive
- To consider local availability of amenities / services, as these reduce the need to travel by car
- For new development areas, design with sustainable travel options from the outset of the project
- Recognise differences between central and less central areas and the opportunities for cycling and walking based on this

Table 3.1 shows the proposed maximum residential parking standards for various locations within the GDA.

Table 3.1 - Proposed Maximum Residential Parking Standards outlined in the GDA Transport Strategy

Location	Maximum Parking Provision *
Central Dublin (Inside Canals and including Docklands)	Zero to 0.5 spaces per unit
Locations Between the M50 and Canals	Zero to 1.5 space per unit
Locations Between the Metropolitan Boundary and the M50	Up to 1.5 space per unit
Hinterland Towns	Up to 2 spaces per unit / subject to assessment through Local Transport Plan
Small Settlements	Subject to local assessment

Plans for public transport and active mode infrastructure will facilitate reduced car ownership and an associated reduced need for car parking spaces. The strategy recognises this and the critical influence of parking availability on car ownership and usage. Given this influence, the strategy recommends that parking standards are expressed as maximum values instead of minimum, to which degrees of constraint can be applied by local authorities (Measure TM11).

Furthermore, the strategy outlines the need to consider demand management of destination parking, outlining measures which can be utilised by local authorities when developing parking standards as shown below.

- Measure TM12 – Destination Parking Standards

The NTA intend to develop guidance on maximum car parking standards for different land-uses and locations, in association with local authorities.

- Measure TM14 – Parking at Major Interchanges and Mobility Hubs

Proposals for major employment development close to major interchanges or Mobility Hubs, which seek to provide car parking, should provide evidence as to why their proposed development cannot operate without car parking.

- Measure TM16 – Parking at Out-of-Town Retail Developments

The NTA will, in conjunction with local authorities, assess the need for the introduction of parking charges at out of-town retail centres in order to reduce the impact of car traffic on these locations and their local communities and will seek the implementation of the outcomes of that assessment.

The strategy notes that the NTA is supportive of an approach that caps car parking on an area-wide basis in locations where the highest intensity of development occurs, or in areas that have high levels of accessibility by public transport, walking or cycling.

3.2.7 Official Policy Related to the Strategic National Road Network

Having regard to the Cherrywood site's context adjacent the M50 and the national strategic importance of that route, it is important to note various government policy related to development impacting on national roads.

The Cherrywood SDZ Planning Scheme acknowledges the accessibility of the development area to the M50 Motorway and associated junctions which represent critical elements of national strategic infrastructure. Accordingly, a sustainable transport strategy is developed to reduce reliance on the private car and safeguard the strategic function of the M50.

Chapter 7 'Enhanced Regional Accessibility' of the **National Development Plan 2021 – 2030** sets out the key sectoral priority of maintaining Ireland's existing national road network to a robust and safe standard for users and National Strategic Outcome 2 of the National Planning Framework includes the objective:

'Maintaining the strategic capacity and safety of the national roads network including planning for future capacity enhancements.'

The requirement to safeguard the carrying capacity, operational efficiency, safety and significant national investment being made in national roads in accordance with official Government policy is similarly reflected in the provisions of the **Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012)**, the **EU TEN–T Regulation No 1315/2013** and the **National Investment Framework for Transport in Ireland (NIFTI)**.

Development in the Cherrywood SDZ Planning Scheme shall adhere to the foregoing provisions of official policy.

3.2.8 Sustainable and Compact Settlements Guidelines for Planning Authorities – Consultation Paper 2023

The Ministry for Housing, Local Government and Heritage has developed a proposed policy approach on Sustainable and Compact Settlements which builds on and updates previous guidance in relation to the planning and development of urban and rural settlements. The aim is to provide a framework that supports the development of more compact and diverse housing typologies, with the overall objective of increasing housing supply.

The guidelines for housing standards are to implement reduced car parking space, especially for low-rise medium density housing. Car parking is recommended to be graduated based on location and access to services by public transport and active mode infrastructure. Parking provision in areas of high accessibility should be minimised, substantially reduced, or wholly eliminated. In areas with medium accessibility, car-parking should be substantially reduced.

3.2.9 Summary

The over-arching policy context presents a strong rationale for a reduction in car parking standards, and the shift towards sustainable modes of transport in particular to contribute to net zero targets and improve the quality of life for all. Therefore, as outlined within key policy documents such as the RSES and NTA GDA Transport Strategy, demand management must be underpinned by infrastructure and realistic choices to encourage behavioural change towards sustainable modes.

3.3 County Development Plan Review

In order to consider how the current residential parking standards within Cherrywood align with local policy, a review of relevant County Development Plans i.e. other Dublin Councils and localities is summarised below.

3.3.1 Dún Laoghaire-Rathdown County Development Plan 2022-2028

The Dún Laoghaire-Rathdown County Development Plan was adopted in April 2022 and will guide future development and growth in the County.

The Plan's approach is centred on sustainable development and the need to create vibrant, liveable and climate resilient communities.

Guidance is provided in the Plan relating to car parking standards in four primary zones, as set out in Table 3.2. These standards have been developed with the aim of encouraging modal shift to more sustainable transport modes.

As shown in ***Appendix A***, the Cherrywood SDZ is situated within Zone 2 and is characterised as an area with:

- Access to a good level of existing or planned public transport services.
- A good level of service accessibility, existing and planned, by walking or cycling.
- A capacity to accommodate a higher density of development than surrounding areas.

Table 3.2. Residential Car Parking Standards Dún Laoghaire-Rathdown County Development Plan 2022-2028

		Maximum	Standard		
Dwelling Type		Zone 1 (Major Town Centre Areas and Blackrock)	Zone 2 (Near Public Transport)	Zone 3 (remainder of county non-rural)	Zone 4 (Rural)
Houses	1 and 2-bed units	1	1	1	Case by case
	≥3-bed units	1	2	2	
Apartments and Sheltered Housing	1 and 2-bed units	1	1	1*	
	≥3-bed units	1	2	2*	
Student Accommodation	Space / bed	1 per 20	1 per 15	1 per 10	n/a

**plus 1 in 10 visitor parking spaces in Zone 3 only*

The Plan also states that reduced parking provision for residential developments from the maximum/standard values outlined in the table above may be permitted dependent on the level of parking permitted and the nature of the proposals, as well as with regards to a number of assessment criteria including:

- Proximity to public transport services and level of service and interchange available.
- Walking and cycling accessibility/permeability and any improvement to same.
- The need to safeguard investment in sustainable transport and encourage a modal shift.
- Availability of car sharing and bike / e-bike sharing facilities.
- Existing availability of parking and its potential for dual use.
- Particular nature, scale and characteristics of the proposed development (as noted above deviations may be more appropriate for smaller infill proposals).
- The range of services available within the area.
- Impact on traffic safety and the amenities of the area.
- Capacity of the surrounding road network.
- Urban design, regeneration and civic benefits including street vibrancy.
- The availability of on street parking controls in the immediate vicinity.
- Sustainability measures being implemented such as bespoke public transport services.

It also states that 4% of residential car parking should be designated for disabled users.

3.3.2 Electric Vehicle Provision

The climate action policies of the Plan support the Government's Electric Transport Programme that aims to electrify the DLRCC mobility systems by facilitating the rollout of Electric Powered Vehicle Recharging Parking Bays across the County.

The target of the national 'Climate Action Plan 2021 Securing Our Future' regarding Electric Vehicles (EVs) is to reach the 945,000 EVs by 2030, including 845,000 cars, 95,000 electric vans, 3,500 low emitting trucks and 1,500 electric buses.

Based on this target, initial trials on electric charging points on streetlamps were previously adopted by the 2016-2022 DLRCC Development Plan. In the current Plan, the Council's focus is on the expansion of the public EV charging points, by using the public lighting network.

In addition, the Plan states that the Local Authorities within the Dublin Region aim to prepare a strategy for developing public EV charging infrastructure at on-street locations, in support of the Government Strategy on electric vehicles and use of alternative fuels – National Policy Framework on Alternative Fuels Infrastructure for Transport for Ireland 2017 to 2030.

The Plan states that as a minimum EV charging points and infrastructure should be provided as follows:

- A minimum of one car parking space per five spaces should be equipped with an EV charging point at residential multi-unit developments. Every space should also be provided with ducting.
- New residential dwellings with in-curtilage car parking should have appropriate infrastructure to enable the installation of EV charging points at a later stage.

3.4 Dublin City Development Plan 2022 – 2028

The Dublin City Development Plan 2022 – 2028 aims to guide the spatial direction of future development and regeneration in the city in line with the principles of compact growth in order to ensure it's developed in an inclusive way which improves the quality of life for all citizens, whilst also being an attractive place to visit and work.

The plan acknowledges that car ownership within the county is high and that whilst residents may choose to travel to work or school by sustainable modes, they will still require car parking / storage for their car.

The plan further states that there is a key distinction between residential parking and destination parking and that there is less value in adopting more restrictive residential parking standards for the purposes of encouraging sustainable travel.

The Plan sets out maximum car parking standards for various land uses; the maximum standards for residential, student accommodation and elderly persons/sheltered housing are shown in Table 3.3.

The Plan further notes that under specific circumstances the maximum car parking standards may be reduced in Zones 1 and 2 only, where it can be demonstrated that other transport modes are sufficient to meet residents' needs.

Table 3.3. Dublin City Development Plan 2022 – 2028 Maximum Car Parking Standards

Residential Car Parking Standards	
Residential – Houses, Apartments & Duplexes	0.5 spaces per dwelling (Zone 1) 1 space per dwelling (Zone 2) 1 space per dwelling (Zone 3)
Student Accommodation	None (Zone 1) 1 space per 20-beds (Zone 2) 1 space per 10-beds (Zone 3)
Elderly Persons Dwellings / Sheltered Housing	1 space per 4 dwellings (Zone 1) 1 space per 2 dwellings (Zones 2 and 3)

As shown in the table above, student accommodation, elderly persons dwellings and sheltered housing developments provide a lower maximum standard of car parking in comparison to typical residential developments.

It is noted that the car parking standards outlined in the Cherrywood SDZ Planning Scheme do not specify car parking standards for student accommodation, elderly persons dwellings and sheltered housing land uses, however this could be considered further if required.

3.4.1 Fingal County Development Plan 2023-2029

The plan acknowledges that as the demand for travel across the County continues to grow in line with ongoing and future development, there is requirement to manage this demand with sustainable transport provision, mobility management and parking management.

The Plan sets out car parking standards for residential, student accommodation and elderly persons/sheltered housing as shown in Table 3.4.

A reduced car parking provision may be acceptable where the Council is satisfied that good public transport links are already available or planned and/or a Management Mobility Plan for the development demonstrates that a high percentage of modal shift in favour of the sustainable modes will be achieved through the development

Table 3.4. Fingal County Development Plan 2023 - 2029

Residential Car Parking Standards	Zone 1 - developments within 800m of Bus Connects spine route, or 1600m of an existing or planned Luas/Dart/Metro Rail station or in lands zoned Major Town Centre	Zone 2 – All other areas of Fingal County
Residential	(1–2 Bedroom) 0.5 spaces (Max) (3–3+ Bedroom) 1 space (Max)	(1–2 Bedroom) 1 space plus 1 visitor space per 5 units (Norm) (3–3+ Bedroom) 2 spaces plus 1 visitor space per 5 units Norm

Student Accommodation	No parking required	1 space per 20 bed spaces
Elderly Persons Dwellings / Sheltered Housing	0.5 spaces (Max)	0.5 spaces plus 1 visitor space per 5 units Norm

3.4.2 South Dublin County Development Plan 2022-2028

The Plan sets out the framework to guide future development within South Dublin County with the focus placed on the places residents live, work, and how residents interact and move between these places while protecting the environment.

The Plan outlines maximum car parking standards for various land uses; the maximum standards for residential and student accommodation are set out in Table 3.5. A specific standard is not stated within the plan relating to elderly persons/sheltered housing.

The Plan further notes that under specific circumstances the maximum car parking standards may be reduced including:

- The proximity of the site to public transport and the quality of the transport service it provides. (This should be clearly outlined in a Design Statement submitted with a planning application)
- The proximity of the development to services that fulfil occasional and day to day needs
- The existence of a robust and achievable Workforce Management or Mobility Management Plan for the development
- The ability of people to fulfil multiple needs in a single journey
- The levels of car dependency generated by particular uses within the development
- The ability of residents to live in close proximity to the workplace
- Peak hours of demand and the ability to share spaces between different uses
- Uses for which parking rates can be accumulated
- The ability of the surrounding road network to cater for an increase in traffic.
- These criteria should be addressed as part of any Traffic and Transport Assessment and/or Workforce Plan in order to provide full justification for the number of spaces proposed.
- The maximum parking standards may also be varied in particular areas by the Planning Authority through planning mechanisms such as SDZ Planning Schemes, Local Area Plans or Movement Framework Plans and Area Access Studies.

Table 3.5. South Dublin County Development Plan 2022 - 2028

Residential Car Parking Standards	Zone 1 – General Rate applicable across the County	Zone 2 - restrictive rates within town and village centres, within 400 metres of a high-quality public transport services (includes a train station, Luas station or bus stop with a high-quality service).
Residential	1 space per one bed dwelling 1.25 spaces per two bed apartment 1.5 spaces per three or more bed apartment / two bed house 2 spaces per three bed or more house	0.75 spaces per one bed apartment 1 space per two bed apartment / one bed house 1.25 spaces per three or more bed apartment / two bed house 1.5 spaces per three or more bed house
Student Accommodation	1 space per 10 bed spaces	1 space per 20 bed spaces

The plan also states that EV charging shall be provided in all residential, mixed use and commercial development and shall comprise 15% - 20% of the total parking spaces provided, with higher provision within this range required in urban areas.

For new dwellings with in-curtilage parking, appropriate infrastructure should be provided to allow for installation of a charging point at a later date.

3.4.3 Sandyford Urban Framework Plan (2016)

The Sandyford Urban Framework Plan was adopted as Appendix No.16 to the DLR County Development Plan 2022-2028. Parking standards in Sandyford have been included in this review due to the similarities to Cherrywood Town Centre and also its location along the Luas Line.

Table 3.6 below outlines the maximum standards for all future residential development in Sandyford.

Table 3.6. Sandyford Maximum Car Parking Standards

Maximum Residential Parking Standards	
1 Bed	0.6
2 Bed	0.8
3 or more bed	1
All Units	Minimum of 0.02 car share spaces

3.5 Cherrywood Parking Standards

The Cherrywood development was designed so that residents could avail of sustainable transport modes to commute to their place of work rather than use private car.

Therefore updates to the Cherrywood SDZ planning scheme's[1] car parking standards were adopted in January 2020 as per Amendment No.6 and are set out in Table 3.7 (also see Figure 3.1).

Table 3.7. Cherrywood SDZ Planning Scheme Car Parking Standards

Residential Car Parking Standards	
Town Centre	0.9 space per unit[2]
Village Centre	0.9 space per unit
Res 1, 2, 3 and 4	0.9 space per 1-bed unit
	1.2 spaces per 2-bed unit/house
	1.4 spaces per 3+bed unit
	2.0 spaces per 3+ bed house
All Residential units/houses	Minimum 0.01 car share space per unit

The car parking amendment document states in Section 4.2.10 that *"a lower standard may be considered for studio apartments in the range of 50-70% of the rate applied to a 1 bed unit/apartment, where provision is made for car sharing facilities and operators under a strong central management regime for the development."*

It is noted that the parking guidelines for Cherrywood are reduced in comparison to the DLRC Development Plan for residential units in the town centre, village centre and 1-bed units in residential plots 1,2,3 and 4 only. The remaining standards relating to housing with 2 or more beds within residential plots 1-4 are higher than those outlined in the DLRC Development Plan.

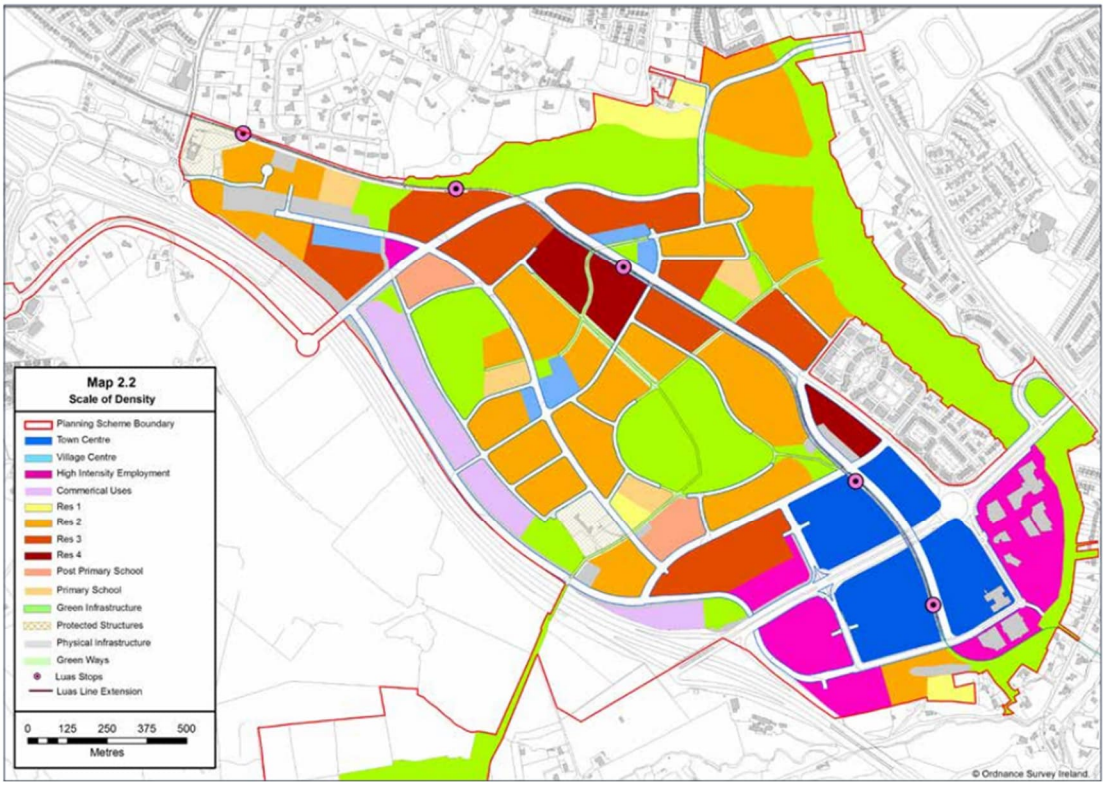
When compared to Sandyford residential standards, the current Cherrywood standards are around 30% higher for 1, 2 and 3+ bed units,

Apart from the flexibility to car parking standards for studio units as stated above, the Cherrywood SDZ planning scheme does not set out further criteria on which developments may be granted a reduction in car parking provision.

[1] It is noted that there is an ongoing building height amendment which may lead to an increase in building heights within the development, which may enable the provision of additional units

[2] A unit refers to an apartment, duplex or triplex

Figure 3.1. Cherrywood SDZ Residential Areas



3.5.1 Electric Vehicle Provision

In relation to EV charging provision the standards state that all car parking spaces should be future proofed for EVs or 'EV Ready'. This would require all development types to 'future proof for EV charging points at appropriate locations, including homes, businesses and on-street and multi-storey car parks, where parking is providing through the installation of ducting.'

The level of EV charging provision should be provided in line with current standards outlined in the Dún Laoghaire Rathdown County Development Plan.

3.6 Summary of CDP Review

As summarised in Table 3.8 overleaf:

- Cherrywood SDZ standards higher than Fingal, South Dublin and Sandyford for 1 bed apartments.
- Cherrywood SDZ standards higher than Fingal and Sandyford for a 1 bed house.
- Cherrywood SDZ standards higher than Fingal, DLRCC, Dublin City and Sandyford for 2 bed houses.
- Cherrywood SDZ standards higher than all others considered for 3 bed houses.
- Cherrywood SDZ standards are lower than DLRCC and Dublin City standards for 1 bed units.

Table 3.8. CDP Review of Car Parking Standards

County Development Plans	1 bed apartment	1 bed	2 bed	3+ bed	dwelling
DLRCC CDP 2022-2028	1	1	1	2	-
Dublin City Development Plan 2022-2028	-	-	-	-	1*
Fingal CDP 2023-2029	0.5	0.5	0.5	1	-
South Dublin CDP 2022-2028	0.75	1	1	1.25/1.5	-
Sandyford UFP	-	0.6	0.8	1	-
Cherrywood SDZ	0.9	0.9	1.2	1.4/2.0	-

*Rate considered for Zone 2

The CDPs were also reviewed in terms of whether standards are stated as a maximum or minimum. The review noted that all standards are considered as maximums (with the exception of DLR CDP Zone 2 which are considered as the standard for residential units), with no minimum requirement stated and availability of flexibility permitted based on set criteria.

The current Cherrywood SDZ standards are considered as a standard with no reference to maximum/minimum or to flexibility criteria despite being designated within Zone 2 as outlined in the DLR CDP.

As outlined previously Zone 2 designation within the over-arching CDP categorises Cherrywood as having access to a good level of existing or planned public transport services, a good level of service accessibility, existing and planned, by walking or cycling and also the capacity to accommodate a higher density of development than surrounding areas.

3.6.1 Policy Consideration

The GDA Strategy proposes maximum car parking standards for a variety of locations. Cherrywood is considered as a location between the Metropolitan boundary and the M50, therefore a maximum of 1.5 spaces per unit is considered appropriate.

The approach is for local authorities to pursue the following in relation to parking standards:

- To seek the lowest level of provision for the most accessible areas and offer more flexibility where public transport connectivity is less comprehensive
- To consider local availability of amenities / services, as these reduce the need to travel by car
- For new development areas, design with sustainable travel options from the outset of the project
- Recognise differences between central and less central areas and the opportunities for cycling and walking based on this

3.7 Cherrywood SDZ Sustainable Travel Targets

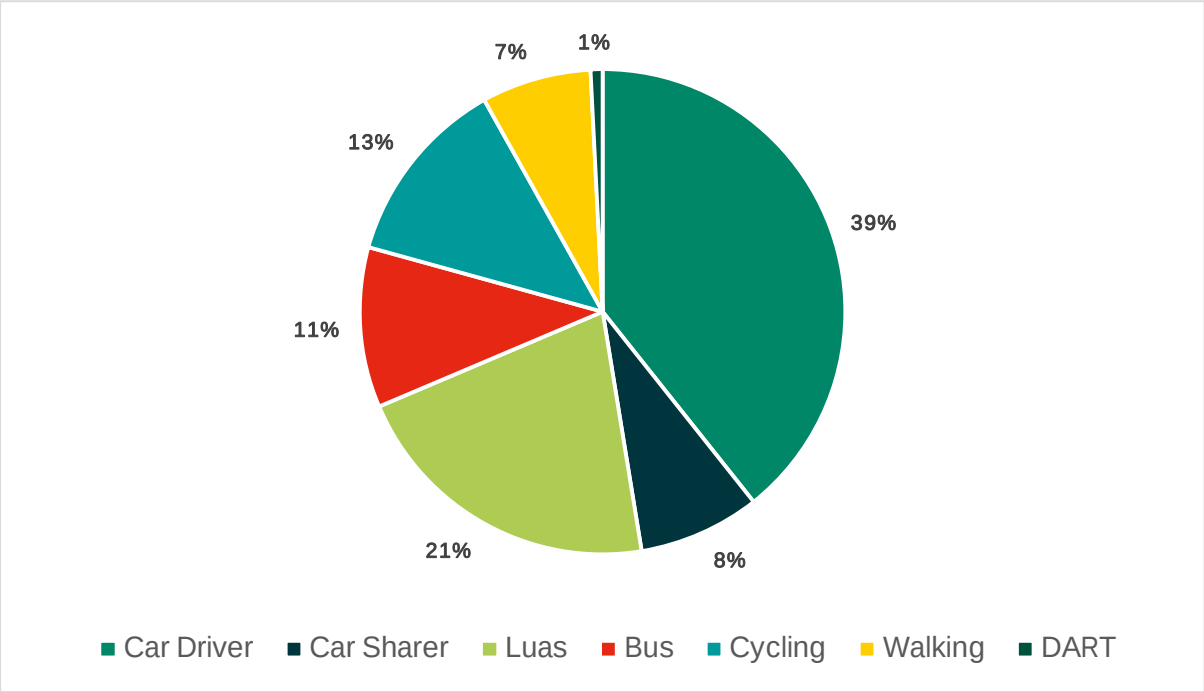
An objective of the Cherrywood SDZ Planning Scheme is to develop and support a culture of sustainable travel into and within Cherrywood i.e. transit orientated development as discussed in the GDA Transport Strategy.

As part of this, challenging yet achievable targets for sustainable travel modes in Cherrywood were developed, as shown in Figure 3.2. It is noted that travel targets were developed for both external and internal trips, however the figure shows the overall modal share proportion for each mode.

The targets aim to:

- Reduce car dependency
- Reduce long distance commuting
- Increase public transport modal share
- Encourage walking, cycling and wheeling

Figure 3.2. Cherrywood SDZ Sustainable Travel Targets



Cherrywood Planning Scheme sets out ambitious mode share targets i.e. just 39% of trips by private car and therefore parking management must be utilised as a key tool to achieve set targets.

3.8 Cherrywood Construction Phasing

In order to achieve the transit orientated vision for Cherrywood it is crucial that infrastructure and services are provided in a timely manner for each Development Area.

As noted in Section 1.1, the eight Development Areas have been grouped into three Growth Areas which will be developed in the following construction phasing (see Figure 3.3):

1. Growth Area 1: Development Areas 2, 4, 5 and 6a;
2. Growth Area 2: Development Areas 1 and 3; and
3. Growth Area 3: Development Areas 6b, 7 and 8.

As outlined in Amendment 5 section 7.2.1 Sequencing and Implementation, residential development in Growth Area 1 can proceed immediately. In addition development of residential units in Growth Areas 2 and 3 may be permitted in tandem with Growth Area 1 up to a maximum of

2,300 units. This is on the basis of the infrastructure permitted to date and under construction including Roads Phase 1, Tully Park, Ticknick Park and Beckett Park.

The sequencing requirements allow for the delivery of residential units in Growth Areas 2 and 3 in tandem with Growth Area 1. Additionally, the village centres may be permitted as supporting uses for the initial threshold of 2,300 residential units in Growth Areas 2 and 3.

Cherrywood cannot be developed in isolation and is therefore dependent on the provision of external strategic infrastructure and services such as water and gas supplies, measures to improve the M50/M-N11 corridors, upgrades to public transport in the region and pedestrian and cycle networks. The phasing of strategic infrastructure, the agencies involved, and the development growth thresholds required for their implementation are also set out within the Planning Scheme.

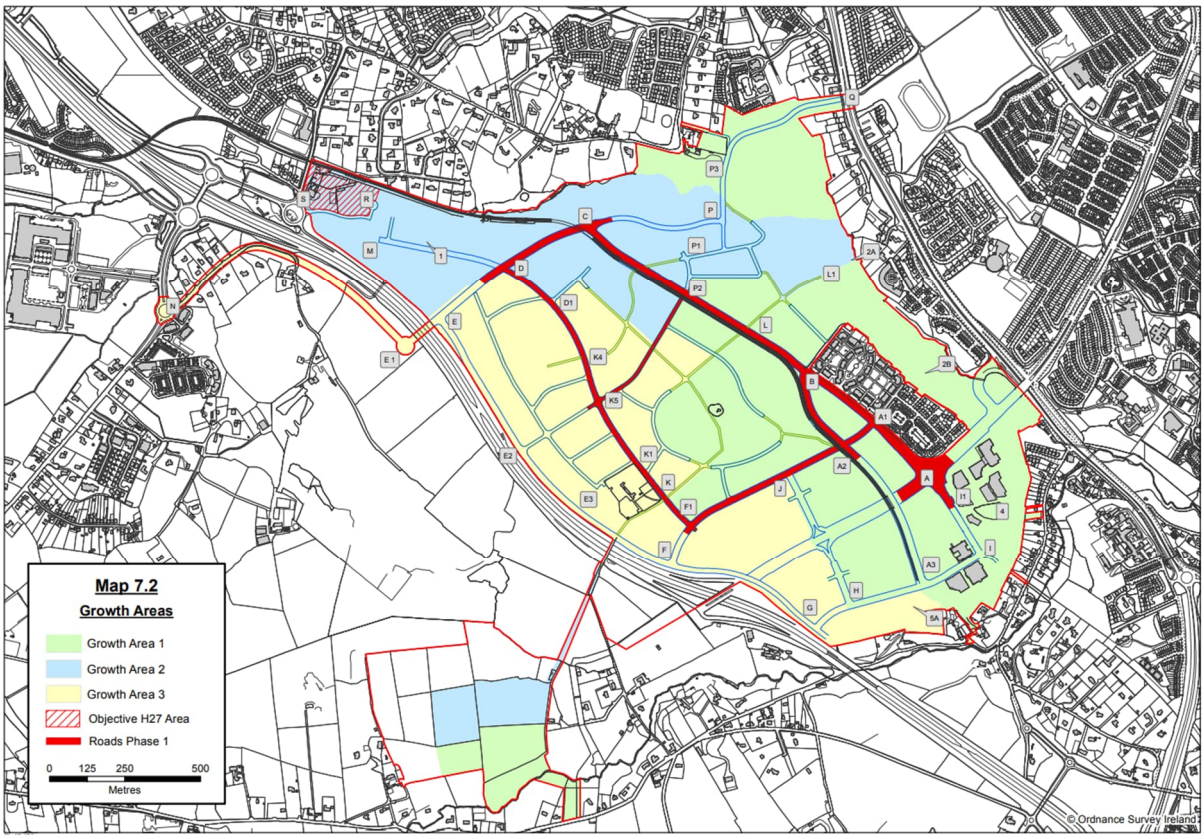
The National Transport Authority has advised and emphasises that bus services will be provided at an early stage of the Cherrywood development in order to facilitate and establish sustainable travel patterns.

Section 7.2.2 Infrastructure Delivery of Amendment 5 also outlines that the primary aim is to secure the infrastructure as set out in the sequencing requirements and the specific infrastructure requirements under each Development Area.

However, it is acknowledged that there may be exceptional or unforeseen circumstances beyond the reasonable control of an individual developer or the local authority, whereby a piece of infrastructure necessary to progress the development of a Growth Area cannot be provided in the short to medium term (circa 0-3 years).

In such instances, there may be an appropriate alternative utilising other infrastructure as provided for under the Planning Scheme, as an interim measure to facilitate the early delivery of housing, and early engagement with the Development Agency will be an essential prerequisite.

Figure 3.3. Cherrywood SDZ Growth Areas



3.8.1 Infrastructure Requirements and Associated Phasing

The Cherrywood transport network will be delivered in a sequenced manner to ensure that modal choice for residents evolves in a sustainable manner (see Figure 3.4). Therefore, active travel and high-quality public transport networks, such as the Green Luas Line and pedestrian and cycle facilities, will be developed alongside each other and traffic demand onto the road network will be managed.

- **Pedestrian and Cycle Infrastructure**

Provision of improved and appropriate internal pedestrian and cycle facilities in Development Areas as per best practice guidelines. Pedestrian and cycling infrastructure forms part of individual planning applications and as such are constructed in tandem with the proposed development.

- **Public Transport Infrastructure**

Provision of internal bus route to Cherrywood Luas Station, bus shelters and Cherrywood Luas stop interchange facility. Work commenced in early 2017.

Provision of an internal Bus turn-back facility which must be completed prior to the occupation of any new development in either Growth Area 2 or 3.

- **Roads Infrastructure**

Requirements for Development in Growth Area 1

Druid's Glen Road Q-P3. Planning permission must be granted prior to any permission being granted in Development Area 5.

Roads Phase 1: Junction at A, roads I1-A-A1-B-L-P2-C-D-D1-K1-K-F1-J-A1-A1 and B-A2. Work commenced in early 2017 and must be completed prior to the occupation of any new development in either Development Areas DA2 or DA4

Pedestrian crossing and street from A2-A3 Grand Parade. Planning permission must be granted prior to any permission being granted in Development Area 2.

Requirements for Development in Growth Area 2 and/or Growth Area 3

Roads Phase 1: Junction at A, roads I1-A-A1-B-L-P2-C-D-D1-K1-K-F1-J-A1-A1 and B-A2. Work commenced in early 2017 and must be completed prior to permission being granted for any new development in Growth Areas 2 and 3

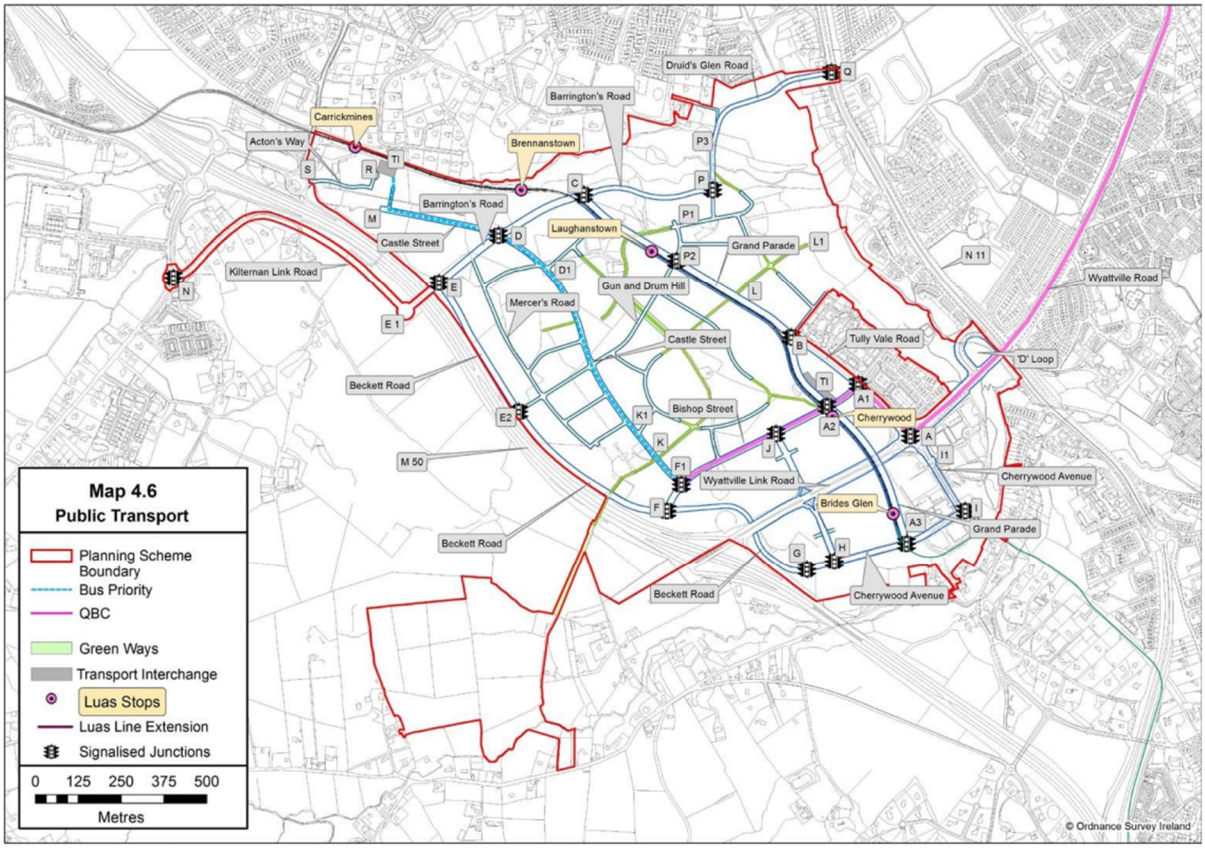
Barringston's Road Druid's Glen Road P3-P-C. Work must be commenced prior to granting permission for residential development in Growth Area 2 and 3 that exceeds 2,300 units.

Castle Street D-M-TI. Work must be commenced prior to granting permission for any new development in Development Area DA3.

Cherrywood Avenue and Beckett Road Underpass H-G-F-F1. Planning permission must be granted prior to any planning permission being granted in either Development Area 6B or 7, or for residential development in Growth Area 2 and 3 that exceeds 2,300 units.

Barrington Road D-E and Beckett Road E-F. The infrastructure must be completed to a given standard prior to permission of HIE employment development within Cherrywood's boundary exceeding 241,000 sqm.

Figure 3.4. Cherrywood SDZ Infrastructure Requirements



The phasing of strategic infrastructure has been linked to development thresholds across the entire planning scheme, under three phases, each with a threshold of residential units and high intensity employment (HIE) floor space.

Many elements of the transport infrastructure required at Cherrywood is of a strategic / wider regional nature and as such require multi-agency collaboration and government funding.

Both the NTA and Transport Infrastructure Ireland (TII) are identified as either the lead agency for implementation and / or the agency with primary funding responsibility for the required infrastructure in each of the three phases in conjunction with DLRCC as outlined in Table 7.5 of the Planning Scheme's Phasing and Sequencing document (detailed below).

Phase1 – Up to 165,000sqm HIE (8,250 employees) and up to 6,414 dwellings

- Provision of direct / dedicated walking / cycling link between Bray and Cherrywood SDZ
- Provision of improved walking/cycling links between the N11 corridor and Cherrywood SDZ
- Provision for additional traffic and demand management measures onto the M50
- In line with the emerging Bus Connects Network, review and as necessary provide for new / improvements/ extensions to bus routes, including by way of example, Orbital Bus Services from Tallaght, Cherrywood <–> Dún Laoghaire, Cherrywood <–> City Centre, Cherrywood <–> North Wicklow).
- Incremental increase of Luas capacity between Sandyford and St. Stephen's Green
- Progress the provision of a direct/ dedicated walking/cycling link between Sandyford Business District and the Cherrywood SDZ area.

- Opening of Brennanstown Luas stop (depending on adjacent development).

Phase 2 – Up to 241,000sqm (over 165,000sqm) of HIE (12,050 employees) and up to 8,786 dwellings (over 6,414)

- Review bus services, in light of implementation of Bus Connects Project.
- Assessment of strategic road network performance
- Provision for additional traffic and demand management measures to the M50 / M11 along with any capacity enhancement measures as identified in GDA Strategy
- Incremental increase of Luas capacity, between Sandyford and St. Stephen's Green as identified in GDA Strategy

Phase 3 – Over 241,000sqm of HIE (12,050 employees)

- Extension of Luas to Bray unless deviation agreed in writing by the local authority
- Commence Construction for the Kilternan Link Road and Priorsland overbridge
- Review bus services, in light of implementation of Bus Connects Project (including for example consideration of link to Kilternan LAP depending on demand)
- Assessment of strategic road network performance
- Upgrade of Luas Green Line to Metro unless deviation agreed in writing by the local authority in consultation with the NTA

3.9 Sustainable Transport Accessibility

It is considered that in light of the current and proposed sustainable transport infrastructure i.e. public transport and active modes that Cherrywood SDZ has a high level of accessibility which aligns with the transit orientated ethos of the development and will aid in the achievement of the ambitious mode share targets.

3.9.1 Public Transport Frequency

The Cherrywood area is currently served by five different bus routes including No. 7, 45, 84, 145 and 155.

The No. 45, 145 and 155 operate on the N11 Core Bus Corridor (CBC) in the AM peak hour, with frequencies between 10 to 20 minutes per service.

The No. 84 operates three services in the AM peak and No.7 six services between Cherrywood and the Loughlinstown area as well as Dublin City Centre via Dun Laoghaire.

Cherrywood has a number of Luas stops along the Green Line, connecting the SDZ with Dublin City Centre including:

- Carrickmines
- Laughanstown
- Cherrywood
- Brides Glen

The Luas Green Line operates on a three-to-five-minute frequency in the AM peak hour, catering for around 4,200 passengers. The closest connection of Cherrywood with the DART network is at

Killiney and Shankill stations that are approximately 2.5km away and provide a high frequency rail service towards Dublin City Centre.

3.9.2 Public Transport Future Demand

Bus services are expected to play an important role in providing public transport to the Cherrywood Planning Scheme. Based on the Cherrywood SDZ Planning Scheme by 2030 (NTA 2030 Transport Strategy Model), 49% of Cherrywood residents will travel to work in external centres not served by Luas and 64% of trips to employment in Cherrywood will come from external centres not served by Luas.

Also, the Cherrywood SDZ Planning Scheme projects that by 2030 (NTA 2030 Transport Strategy Model), 41% of Cherrywood residents will travel to work to centres to the north served by Luas. Additionally, only 14% of trips to employment in Cherrywood will come from centres to the north served by Luas and a further 13% will come from centres to the south assuming Luas / BRT is extended to Bray.

Specifically, according to the Cherrywood SDZ Planning Scheme, by 2030 approximately eight additional buses would be needed during the morning peak to meet the target of 12% of external trips by bus.

Likewise, an estimated 13 extra buses would be required for inward demand. For 2030 Luas ridership, the Planning Scheme projects that there will be enough demand to achieve the target of 25% of external trips to work by Luas, which could be accommodated by running longer trams at more frequent intervals. However, with a projected resident population of 20,000 by 2030, extending the catchment served by Luas will be necessary to achieve the target mode share of 25% for work trips to Cherrywood.

3.9.3 Public Transport Walking Accessibility

As part of work undertaken on Cherrywood SDZ in 2018, AECOM considered walking accessibility to public transport stops within Cherrywood. Figure 3.5 shows the extent of the 1km walking catchment from the existing Luas stops (all existing stops assumed to be operational). As shown the Luas serves the majority of the Cherrywood SDZ and provides a reliable, high frequency service to key destinations along the Luas system such as the city centre and Sandyford and also provide interchange to other transport systems.

Whilst the Luas will respond to the majority of public transport demand to the north (41%) for Cherrywood, the bus network will be required to provide access to areas outside the Luas corridor. Figure 3.6 overleaf shows the extent of the 1km walking catchment from the existing N11 bus stops (all combined with the 500m walking catchment from the proposed bus stops within Cherrywood). As shown, the combined buses serve the vast majority of the Cherrywood SDZ and will complement the Luas system to open up the areas in Dublin served by PT from Cherrywood.

Figure 3.5 – Luas Stops – 1km Catchment

Figure 3.6 – Bus Stop Walking Catchment

3.9.4 Public Transport Proposed Infrastructure

The DLRC Development Plan 2022-2028 has set a goal of implementing the full Dublin Bus Connects programme, including the complete redesign of the bus network and network of core bus corridors on the busiest routes as outlined in the GDA Transport Strategy and shown in Figure 3.7.

The E-Spine along the N11 is the most accessible corridor from Cherrywood (see Figure 3.6 bus stop walking accessibility) and is within walking distance to many of the developments in the area, providing access to the Dublin City Centre, the corridor route is to Bray from the City Centre running through Shankill and along the N11.

The Bus Services Network Redesign also includes a bus priority route from Dun Laoghaire to Cherrywood through Mounttown, Upper Glenageary Road, Sallyglen Road, Church Road, and Wyattville dual carriageway, with a connection to the Rock Road CBC via Rochestown Avenue, Abbey Road, Stradbrook Road, and Frascati Road (the L22 service).

The Cherrywood SDZ Planning Scheme outlines that the following infrastructure will be necessary to achieve bus priority along the proposed L22 route:

- Dedicated bus lanes on Bishop Street and on Tully Vale Road linking to the N11 and the proposed Wyattville Road CBCs
- Bus gate along Castle Street to restrict through car traffic
- Bus infrastructure along the route e.g., bus stops, shelters, RTPI information signs etc
- Bus priority measures at junctions
- Turn back bus facility
- A signalling strategy

Figure 3.7 – GDA Transport Strategy – Core Bus Corridors

The N11 CBC is crucial in meeting current and future passenger demands to and from Bray/North Wicklow and areas between Cherrywood and the Dublin City Centre, which are not served by the Luas Green Line, such as Ballsbridge. The GDA strategy proposes infrastructure measures that will reduce journey delays and enhance service reliability on the N11 CBC.

It is unlikely that strategic bus services between Bray and the City Centre will divert from the N11 CBC into Cherrywood. During the early development phases, most employment and residential areas will be within walking distance of the N11. Thus, early improvements to pedestrian routes between the N11 bus stops and Cherrywood are essential. Eventually, the extension of the Luas Green Line from Bride's Glen to the Bray region will serve public transport demands from the south between Bray/North Wicklow and Cherrywood.

The GDA strategy also proposes a South Orbital CBC (Figure 3.8) connecting the Dun Laoghaire/Blackrock area to Sandyford/Dundrum and the Tallaght area. To reach Cherrywood from orbital route areas such as Tallaght, public transport trips are expected to run via orbital bus/Luas interchange at Sandyford/Dundrum.

Figure 3.8 – GDA Transport Strategy – Orbital Core Bus Corridors

There is a need for new services or route variations between the Cherrywood area and areas outside of the Luas Green Line's reach. The plan sets out a goal of supporting the delivery of a bus service from Sandyford via Rathmichael and Old Connaught to Bray Dart Station until the Luas Green Line extension to Bray is suitably advanced, to facilitate the demand in this area.

Providing services between Kilternan/Glenamuck and the Cherrywood area will depend on demand from the Kilternan/Glenamuck region. Therefore, the provision of a dedicated bus lane on the Kilternan Link Road will be subject to future review based on the progress of development in the Kilternan/Glenamuck area.

Finally, the E1 bus route service serving Ballywaltrim, Bray, Shankill, N11, City Centre and Northwood, will be in operation in late 2023. This route will provide an improved service between Bray and the city centre, passing by Cherrywood at the N11, which is within walking distance to most of the developments in the Cherrywood area. This route is part of the CBC system proposed by the GDA strategy.

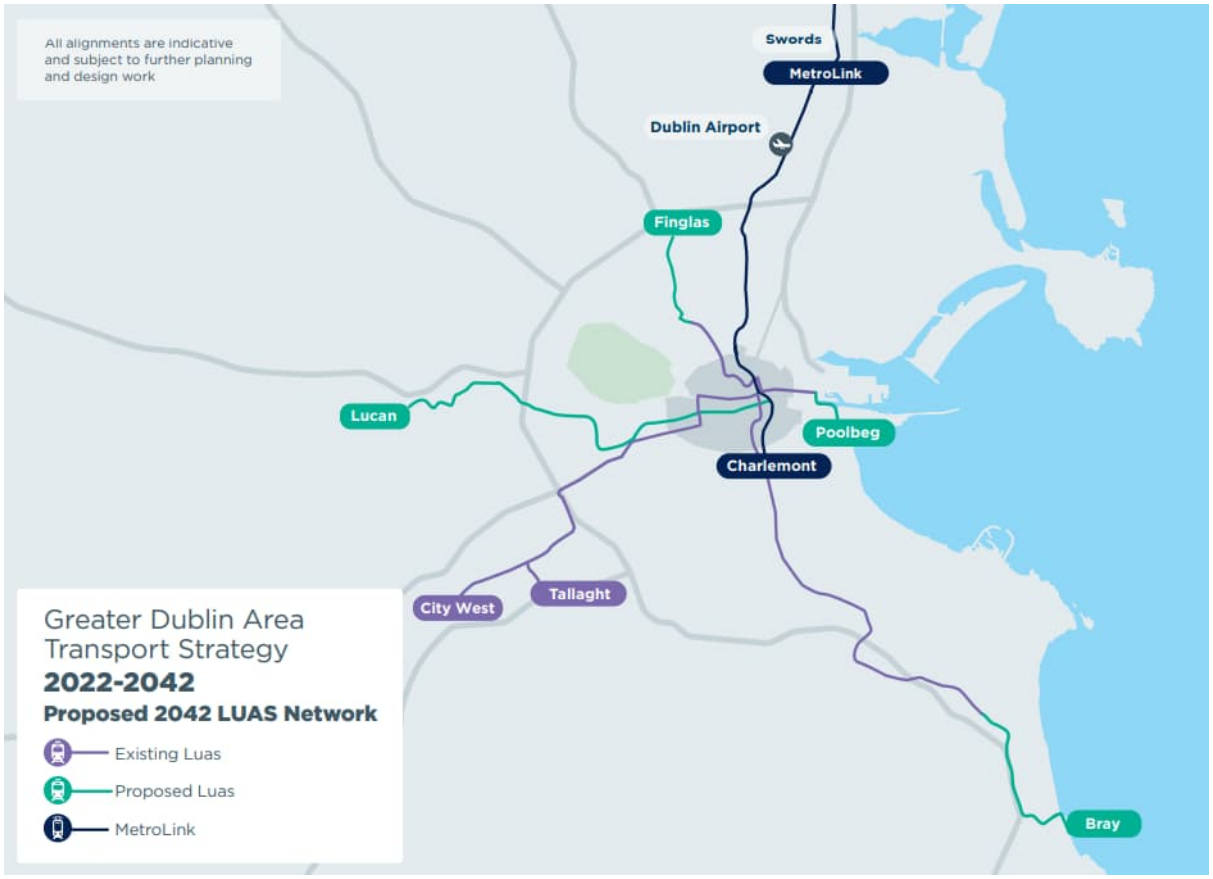
The GDA Transport Strategy and the NDP 2018-2027 outline the importance of the Green Line Capacity Project for promoting sustainable transport modes and facilitating the current and future demand along the Luas network. As presented on the DLRC CDP, the first phase of the project will include the following actions:

- 40% overall increase in service capacity
- Increase of 3,000 passengers per direction per hour
- Future proof line capacity into 2030's
- Purchase of 8 new trams
- Increase length of the existing fleet (26 trams) to 55m long
- Increased tram capacity
- Increased service frequency

The proposed extension of the Luas Green Line on its south end, from Brides Glen to Bray will enhance connectivity to the south (Figure 3.9). The relevant infrastructure related to Luas stops,

park and ride and cycle parking facilities will also be considered throughout the process of the development of the Luas extension.

Figure 3.9 – GDA Transport Strategy – Proposed Luas Network



3.9.5 Current Active Mode Infrastructure

Based on the Cherrywood SDZ Planning Scheme, the existing cycle facilities adjacent to Cherrywood are the following:

- Segregated one-way cycle lanes and footways on Wyattville Road, crossing the N11 to Wyattville Link Road as far as Cherrywood roundabout
- Pedestrian phases in the various sets of traffic signals at the Wyattville interchange
- Segregated one-way cycle lanes and footways along the majority of the N11
- Pedestrian footbridges over the N11 at Johnstown Road and Loughlinstown roundabout
- Two signalised pedestrian crossings of the N11 between the Wyattville interchange and the Johnstown Road junction (Kilbogget and Shanganagh Vale)

3.9.6 Active Modes Future Demand

In terms of the active modes, the Cherrywood SDZ Planning Scheme 2030 model data indicates that 23% of future trips to work originating in Cherrywood will be less than 5km and a further 27% will be less than 10km.

The proportion of future trips to work with a destination in the Cherrywood Town Centre will be 28% less than 5km and a further 22% less than 10km. These percentages show significant potential for cycling and walking to and from locations such as Bray, Sandyford and Dun Laoghaire, therefore, it is crucial to provide a high-quality cycle and pedestrian network.

3.9.7 Proposed Active Mode Infrastructure

3.9.7.1 Green Routes

AECOM completed a Green Routes Network Study in May 2022, which identified greenway, cycle and pedestrian routes and connecting links within Cherrywood SDZ. To achieve the modal share targets of walking (30%) and cycling (45%) specific infrastructure networks for these modes needs to be prioritised and implemented. Internal and external walking and cycling trips need to be direct and convenient, possibly at the expense of direct routes for local car trips.

Greenways and motorised traffic-free pedestrian and cycle links are the major element of the walking and cycling network in Cherrywood. These will be supplemented by high quality cycle and pedestrian facilities as part of the road network. Greenways are green infrastructure and have an important transport role in addition to their ecological role.

The proposed network of walking and cycling facilities in Cherrywood SDZ is shown in Figure 3.10 (Map 2.5 of the Cherrywood SDZ Planning Scheme). Cherrywood has been designed with a hierarchy of streets where the main vehicular traffic will be directed onto the major routes. The overall plan is based on 5- and 10-minute walking distances (400 – 800m) from public transport / district and neighbourhood centres, so it should be safe to walk and cycle between all principal nodes within the SDZ lands.

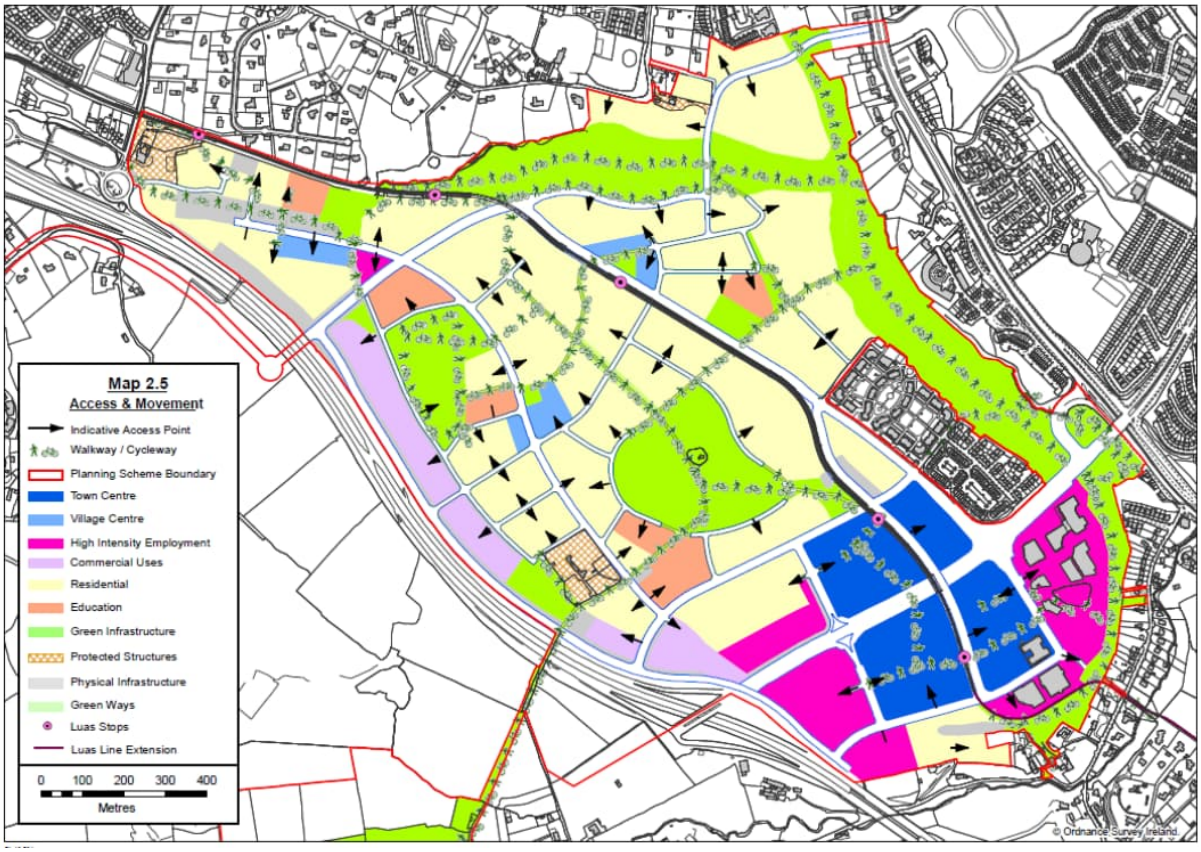
Pedestrians/cyclists are facilitated internally by:

- Segregated routes will give safe and direct access to principal nodes.
- Links will pass through parks and along green routes.
- Signalised toucan crossings at main roads.
- Grade separated links across the Wyattville Link Road.
- High standard of surfacing and continuity of routes.
- 30km/h speed limit for internal routes to slow traffic to the benefit of pedestrians/cyclists.

Links to the wider pedestrian/cyclist network will include:

- A greenway along the linear park from Cabinteely to Cherrywood and continuing towards Shankill.
- Proposed greenway along Carrickmines river and Ballyogan stream to Stepaside area.
- Proposed greenway along Carrickmines river and through Leopardstown Racecourse to Sandyford Business Estates.
- Pedestrian / cyclist links to Cherrywood Road and Brides Glen Road.
- Pedestrian / cyclist link from the Bride's Glen Luas stop along the old viaduct to Shankill via Loughlinstown hospital.
- A proposed walking route through the Carrickmines Valley from Carrickmines through to the linear park. This new wooded route will be developed in conjunction with park and open space development.

Figure 3.10 – Access and Movement Strategy

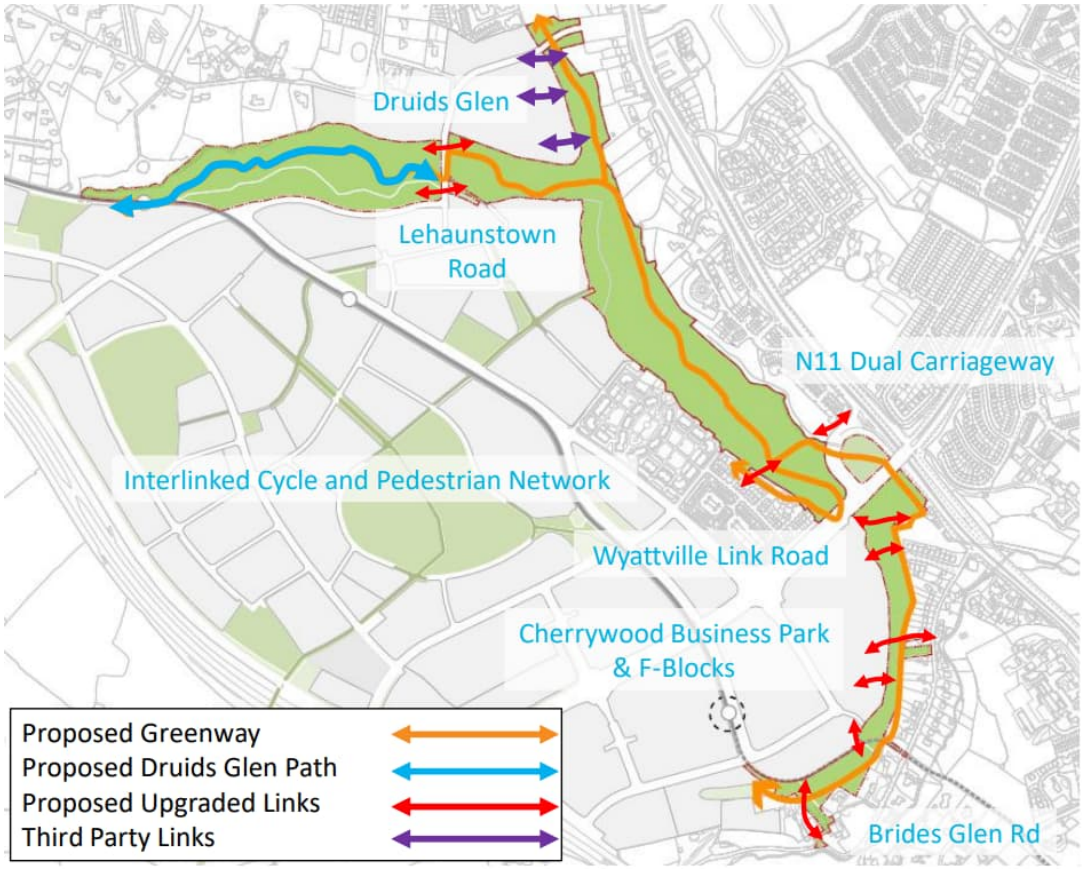


The Cherrywood Green Routes Network proposes the development of a cycle and pedestrian greenway network for the area within the Cherrywood SDZ, as shown in Figure 3.11.

The proposed Network is based on the preliminary routing indicated in the Cherrywood SDZ, extending for approximately 6.0km. The Network proposes links to improve the pedestrian and cycle connections to key external desire lines, including links to the N11, Wyattville Link Road, and Brides Glen / Cherrywood Road in the south.

In the Druids Glen Woodland, an 800m long pedestrian walking route is proposed, which will comprise resurfacing of existing pathways through the woodland. This scheme will include attractive and quality outdoor spaces which will enhance the experience for local people and visitors.

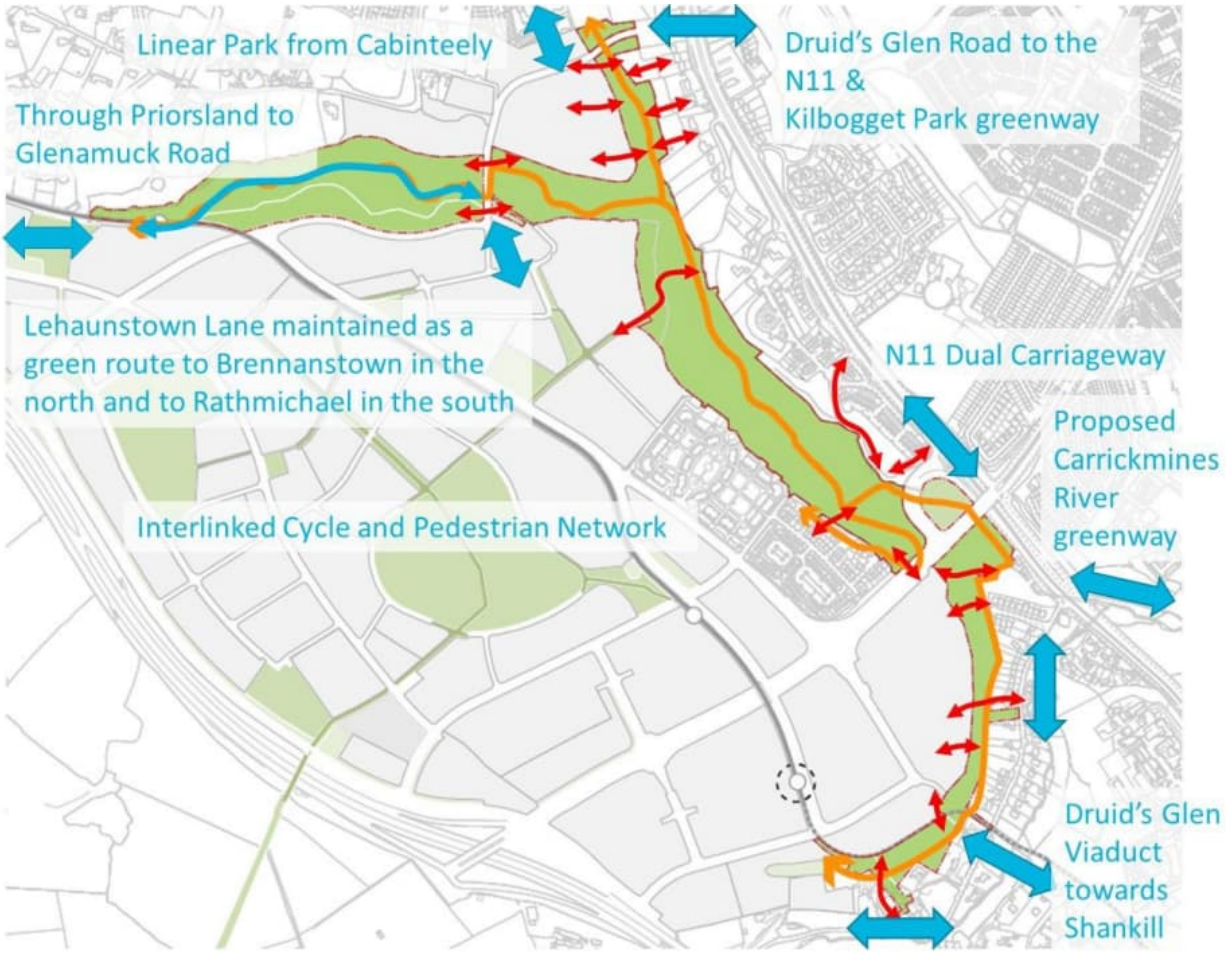
Figure 3.11 – Proposed Green Routes Network



The proposed scheme will link into various existing and future pedestrian and cycle facilities, as set out in Figure 3.12.

- Priorsland to Glenamuck Road
- Lehaunstown Lane
- Druid's Glen Road to the N11
- Proposed Cabinteely to Cherrywood Greenway
- N11 Dual Carriageway
- Wyattville Link Road
- Proposed Carrickmines River Greenway
- Cherrywood Road
- Brides Glen Road; and
- Druid's Glen Viaduct.

Figure 3.12 – Proposed Green Routes Network – Linkages to Wider Active Mode Infrastructure



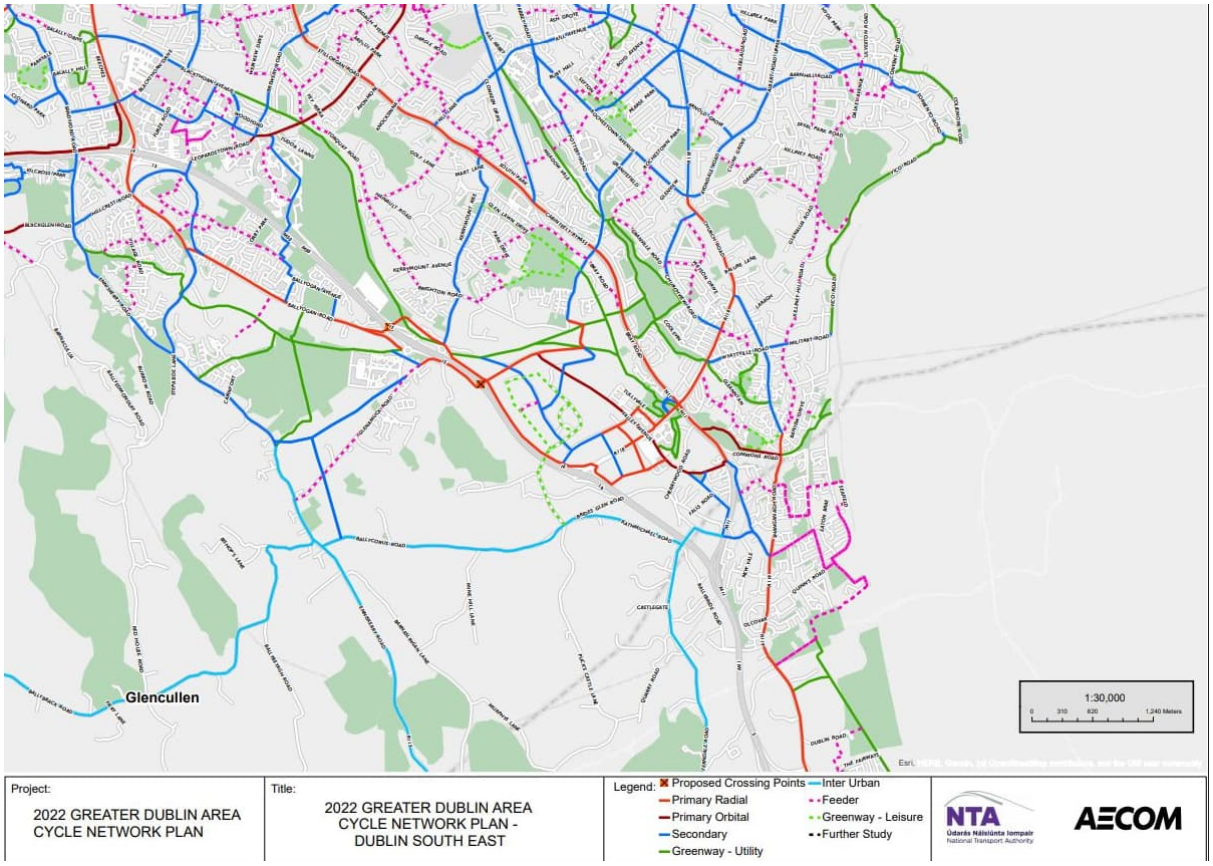
3.9.7.2 2022 GDA Cycle Network

As part of the development of the NTA GDA Transport Strategy, the GDA cycle network plan has also been updated to align with the strategy.

As shown in Figure 3.13, the extensive proposed cycle network in and around Cherrywood is comprised of:

- Primary radial - N11 Bray Road, alongside M50 connecting to Glennamuck Road to the North, Tullyvale and R118
- Primary orbital – Commons Road and Valley Avenue
- Secondary – surround area of Tully Park with connections to radial routes
- Utility Greenway – Tullyvale with connections to Cabinteely
- Inter-urban – Brides Glen Road, Ballycorus Road and Rathmichael Road
- Leisure Greenway – connection from Ballycorus Road to Tully Park via Lehaunstown Lane

Figure 3.13 – 2022 GDA Cycle Network Plan



3.9.7.3 Conclusion

Overall it is considered that Cherrywood SDZ is highly accessible by public transport and active modes particularly upon completion of the wider BusConnects network and internal infrastructure.

Outputs from the NTA 2030 Transport Strategy Model show that future demand to the north can be accommodated on the existing Luas which serves Cherrywood, however additional bus services would be required to achieve the target of 12% external trips by bus.

A reduction in residential parking availability within the SDZ will further increase demand beyond that forecast within the NTA 2030 model; however recent consultations with NTA and TII (March 2023) noted no concerns with public transport network capacity associated with an increase in demand as a result of reduced parking standards as additional services will be provided when demand is realised.

3.10 Cherrywood Planning Applications

3.10.1 Residential Planning Applications

Details of residential planning applications submitted to DLRCC which include the lower parking rates adopted by the Cherrywood SDZ between January 2020 and May 2023 are outlined in Table 3.9.

It should be noted that residential planning applications that are located within the SDZ but are outside the area of the Cherrywood Planning Scheme have been excluded from this section. Furthermore, the applications considered include mixed housing unit types which generally have lower parking standards which is therefore reflected in the calculation of the associated car parking rates.

Fifteen relevant residential planning applications were identified, providing around 0.89 – 2.23 parking spaces per unit. On average each residential development provides 1.30 parking spaces per unit in comparison to the average car parking rate pre-202 of 1.55 parking spaces per unit as outlined fully in ***Appendix B***.

Table 3.9. Planning Applications Review Post January 2020

Planning Application Ref	No. of Units	Type of Units	Parking Car Spaces Proposed	Status	Car Parking Rate
DZ20A/0073 / DZ20A/0362[3]	65	10 1-bed and 55 2-bed apartments	65 spaces (basement)	Granted	1.00
DZ20A/0491[4]	70	21 1-bed and 49 2-bed apartments	65 spaces (surface level)	Granted	0.93
DZ20A/0552 / DZ21A/0699	168	32 4-bed houses, 44 3-bed houses, 11 2-bed houses, 16 1-bed apartments, 17 1-bed apartments, 40 2-bed apartment, 24 3-bed apartments	264 spaces (surface level)	Granted	1.57
DZ20A/0052	198	31 studios, 55 1-bed and 112 2-bed units	201 spaces (underground multi-storey/ basement)	Granted	1.02
DZ20A/0399 / DZ21A/1069	136	21 4-bed houses, 50 3-bed houses, 9 2-bed houses, 56 3-bed duplexes	245 spaces (15no. reserved for future development[5])	Granted	1.80
DZ21A/0334	488	155 1-bed apartments, 243 2-bed apartments, 26 3-bed apartments, 9 2-bed duplexes, 2 3-bed duplexes, 10 3-bed duplexes, 15 2-bed	559 spaces (495 at basement level and 64 at surface level)	Granted	1.15

[3] Amendments to planning application ref: D15A/0385
[4] Amendment to Block ABC previously submitted under planning application ref: DZ20A/0073 and DZ20A/0362
[5] Parking was previously being reserved for future development, however DLRCC can no longer provide planning approval for uncertain development and its associated parking provision

Planning Application Ref	No. of Units	Type of Units	Parking Car Spaces Proposed	Status	Car Parking Rate
		apartments, 18 3-bed apartments			
DZ21A/0414	102	22 1-bed, 32 2-bed and 5 3-bed apartments. 32 3-bed and 11 4-bed houses	62 spaces (underground multi-storey/basement) 86 in-curtilage space	Granted	1.45
DZ21A/0664	47	19 1-bed apartments, 28 2-bed apartments	52 spaces (36 at basement and 16 at surface level)	Granted	1.11
DZ21A/1042	122	5 2-bed houses, 13 3-bed houses, 16 4-bed houses, 40 3-bed duplexes, 26 1-bed apartments, 22 2-bed apartments	172 spaces (basement and surface level)	Granted	1.41
DZ21A/0807[6]	1,316	1,316 studios and residential units	1,169 spaces[7] (underground multi-storey/basement)	Pending	0.89
DZ21A/0932	146	10 studio, 57 1-bed, 79 2-bed apartments	151 spaces (underground multi-storey/basement)	Granted	1.03
DZ21A/1085	66	62 3-bed duplexes, 1 1-bed apartment	92 spaces at surface	Granted	1.39
DZ22A/0133	162	31 4-bed houses, 19 2-bed houses, 56 3-bed duplexes	223 spaces (134 at podium and 89 surface)	Granted	1.37
DZ22A/0623	44	23 3-bed units and 21 4-bed units	98 spaces (at surface)	Granted	2.23
DZ22A/0770	71	5 3-bed duplexes, 7 2-bed duplexes, 1 1-bed duplexes, 9 3-bed apartments, 26 2-bed apartments and 23 1-bed apartments	83 spaces (75 spaces at basement and 8 spaces at surface)	Granted	1.17
Average Parking Rate					1.30

*It should be noted that the calculated car parking rate includes car sharing spaces

[6] Amends proposals submitted under planning application ref: DZ19A/1024
[7] Excludes 118 parking spaces in G1 Basement permitted for hotel/residential usage

3.11 Approved Planning Applications with Reduced Parking Provision

DLRCC provided information on a number of 1-bed unit residential planning applications which have been granted with reduced parking provision, in comparison to standards outside of the Cherrywood development i.e. mainly Dundrum and Dún Laoghaire by An Bord Pleanála as summarised in Table 3.10.

On average, the approved An Bord Pleanála parking ratios are 36% (weighted average) lower than those recommended by DLRCC for the 14 applications reviewed i.e. 0.54 spaces per unit approved versus 0.85 spaces per unit recommended. The rationale for the approvals with lower parking ratios is based on the flexibility criteria as outlined in the DLRCC CDP including public transport accessibility, development specific mobility management and provision of sustainable mode infrastructure.

Interestingly, one of the applications approved by An Bord Pleanála (Carman Hall, Sandyford) was approved on the basis that the development will be centrally managed, and that residential car parking spaces will not be allocated to individual apartments but will be allocated to support the requirements/needs of individual residents via a management company. It will not be possible to purchase a car parking space on a permanent basis.

It should be noted that DLRCC recommendations generally align with the standards as set out in the County Development Plan 2016 – 2022 (which was the published plan at the time of the planning applications), however after review by An Bord Pleanála, grounds for reduced parking ratios were determined based on a number of criteria including:

- High quality public transport accessibility
- Provision of development specific mobility management plans
- Availability of sustainable mode infrastructure / facilities.
- Particular nature, scale and characteristics of the proposed development (as noted above deviations may be more appropriate for smaller infill proposals).
- Capacity of the surrounding road network.

A review of planning applications granted since the enactment of both the Large-scale Residential Development (LRD) and the adopted DLRCC CDP i.e. June 2022 included seven significant residential apartment applications.

The car-parking ratios submitted for six of the seven applications appear to be largely in keeping with those outlined in the CDP. Development Management appear to have adjudicated consistently with regards to ratios outlined in the CDP while also providing flexibility where location and sustainable transport modes are prevalent.

The recently adopted County Development Plan 2022 – 2028 allows a level of flexibility in relation to residential parking standards which align to those outlined by An Bord Pleanála for the particular applications considered for lower parking rationale.

Figure 3.14 shows the recommended DLRCC ratios and approved An Bord Pleanála ratios based on number of residential units as outlined in Table 3.10 in order to determine the linear trend.

This shows that for developments with a lower number of proposed units, the disparity between recommended and approved rates is greater when compared to larger proposed developments.

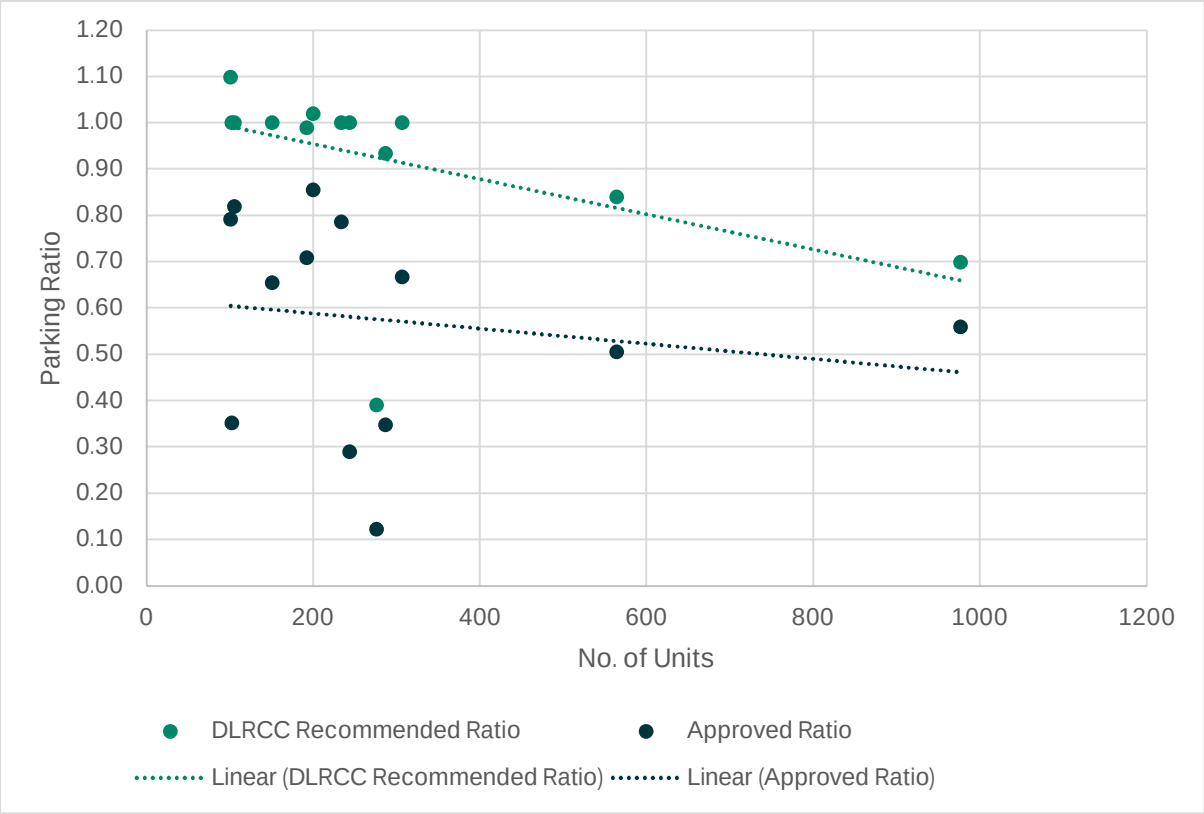
For example, based on the linear trendline, a development comprised of 200 units shows approved rates around 40% lower than those recommended by DLRCC. In comparing a development comprised of 1000 units the approved rates are around 30% lower than those recommended by

DLRCC. However it should be noted that the majority of developments within Cherrywood SDZ are larger scale due to plot sizes and the greenfield nature of the SDZ area.

Table 3.10. Approved Parking Ratios Summary – Dundrum and Dún Laoghaire

Site	Units	BTR / BTS	DLRCC Decision	ABP Approved Parking	DLRCC Parking Ratio	ABP Approved Parking Ratio	% Change in Ratios
Clay Farm	192	BTS	190	136	0.99	0.71	28.3%
The Grange	287	BTS	268	100	0.93	0.35	62.4%
Liseux Hall, Leopardstown	200	BTS	204	171	1.02	0.86	15.7%
Green Acres Convent, Dundrum	307	BTS	307	205	1.00	0.67	33.0%
Grange Stillorgan Phase 1	102	BTR	102	36	1.00	0.35	65.0%
Carman Hall Sandyford	564	BTR	474	285	0.84	0.51	39.3%
Dundrum Central Mental Hospital Site	977	-	683	547	0.70	0.56	20.0%
Castlepark School	101	BTS	111	80	1.10	0.79	28.2%
Harbour Road Dalkey next to St Patrick's Church	105	BTS	105	86	1.00	0.82	18.0%
Deansgrange	151	BTR	151	99	1.00	0.66	34.0%
Cross Avenue, Blackrock	244	BTR	244	71	1.00	0.29	71.0%
Baker's Corner	276	BTR	108	34	0.39	0.12	69.2%
Doyle's Nursery	234	BTS	234	184	1.00	0.79	21.0%
Average					0.92	0.58	39%

Figure 3.14. Recommended and Approved Parking Ratios



3.12 Build to Rent Vs Build to Sell

The Build-to-Rent (BTR) sector experienced significant growth over the last 10 years[8] and currently there are around 210,000 BTR homes in the UK, of which approximately 80,000 are complete and the remainder are either under construction or in planning[9].

The BTR housing sector was emerging in Ireland in 2018, and in response to this the Sustainable Urban Housing: Design Standards for New Apartments published by the Department of Housing, Planning and Local Government were updated in 2020 to include guidance on BTR developments.

The guidance outlined that the Department would monitor the emerging BTR accommodation sector and if deemed necessary would issue further technical updates as appropriate.

The monitoring process determined that a sufficient quantum of BTR housing was either permitted or subject to consideration within the planning system. Subsequently, a technical update to the guidance was published in December 2022 which set out a revised SPPR 7 as outlined below:

'There shall be a presumption against granting planning permission for shared accommodation/co-living development unless the proposed development is required to meet specific demand identified by a local planning authority further to a Housing Need and Demand Assessment (HNDA) process'.

AECOM undertook a high-level review of the level of car parking provision provided by BTR developments in Ireland, NI and the UK, the findings of which are set out in Table 3.11.

[8] https://www.ukaa.org.uk/planning-for-built-to-rent-policy-guidelines-and-implementation/
[9] https://bpf.org.uk/about-real-estate/build-to-rent/

Table 3.11.Build-to-Rent Developments Car Parking Rates

Planning Application Ref	Location	No. of Units	Car Parking Spaces	Parking Rate
LA04/2019/2387/F	Quay Gate, Belfast	151	51	0.34
LA04/2019/2257/F	Academy Street, Belfast	105	0	0.00
LA04/2020/2548/PAN	The Grattan, Belfast	210	15	0.07
LA04/2019/0127/O	Wellwood, Belfast	277	11	0.04
LA04/2021/2280/F	Queen's Road, Belfast	778	107	0.14
17/00847/DC	Candleriggs Court, Glasgow	36	18	0.50
21/02557/FUL	Portcullis House, Glasgow	279	0	0.00
SHD0031/20	Former Player Wills site, Dublin 8	492	148	0.30
2725/21	Former Fodhla Printing Works site, Dublin 8	79	18	0.23
SHD3ABP-303803-19	Cookstown Industrial Estate, Tallaght, Dublin 24	196	67	0.34
			Average Car Parking Spaces per Unit	0.20

On average, these BTR housing developments provide 0.20 car parking spaces per unit, ranging from zero to 0.50 car spaces per unit.

It is noted that these developments are generally located in / near to the city centre, have good accessibility to public transport services and support other more sustainable modes such as walking, cycling and wheeling.

However, there are concerns about the dominance of BTR developments in the Dublin City Council area which have seen a significant increase from just over 15% of all residential schemes applied for in 2018 to almost 82% in 2020[10].

There are further concerns about the long-term viability of BTR developments as they were designed to minimum standards, including car parking standards. Therefore, once the 10-year covenant has passed, the units may potentially be available for future sale unless a specific condition has been included within the planning with reference to future options.

[10]https://www.irishtimes.com/news/politics/dominance-of-build-to-rent-in-dublin-unsustainable-says-council-chief-1.4867020

This may result in parking issues once the units are re-categorised as BTS i.e. a lack of available car parking provision in the development and / or wider area due to city centre locations.

The historical lack of parking associated with BTR developments may also act a barrier for future sale as they may be deemed less desirable by certain buyers, this could lead to units becoming unoccupied.

There are a number of mitigation measures which may be considered in order to account for the reduced parking provision once the 10-year covenant has passed, particularly within a town centre setting including:

- Mobility management plans
- Provision of associated mobility hub
- Realistic first and last mile sustainable mode choices for residents

The provision of such facilities can be developer led and therefore tied into planning permissions for such developments.

3.13 Cherrywood Town Centre and Environs Review

A number of amendments to development types are being proposed within Cherrywood Town Centre in light of the Building Height and Density Review. DLRCC has commissioned AECOM to undertake a peer review of applications received for change of use in order to determine the impacts the change in infrastructure capacity i.e. retail to residential usage potentially up to 800 units. However, it is noted that this figure may increase to +1000 units depending on the outcome of a number of review studies.

Each change of use application will be assessed with a standalone risk register detailing a number of key risks if change of use is granted. One significant risk is the impact of parking i.e. residential use will require significantly more parking than retail usage.

The current car parking standard within the town centre is 0.9 spaces per residential unit and as such this could result in the requirement for an additional 720 car parking spaces based on 800 units.

Cycle parking is also a residential requirement and current standards detail 1 space per unit for long stay cycle parking and 0.2 spaces per unit for short stay. This would equate to a maximum of 800 long stay cycle parking spaces and 160 short stay cycle spaces. However, the requirement for cycle parking also needs to include the consideration of future demand and therefore the number of spaces required will be subject to change.

Initial potential mitigation measures for parking include extension of basement car parks, reduction in town centre car parking requirements and preparation of Mobility Management Plans (MMPs) in order to provide justification of reductions in standards.

The study is currently at an early stage and as such no further detail is available, however as the study develops, any revisions to the town centre should also be considered in the wider context of the Cherrywood SDZ in order to achieve the correct balance of parking provision.

3.14 Summary

Reductions to the Cherrywood SDZ planning scheme's car parking standards were adopted in January 2020 and these parking standards are lower in comparison to the parking guidelines set out in the DLRC Development Plan. This reduction in parking standards reflects that Cherrywood has been designed so that residents can avail of sustainable travel modes rather than private car.

The current Planning Scheme documents link the provision of sustainable infrastructure to the phasing of the development with the NTA and TII identified as lead agencies. It is considered that in light of the current and proposed sustainable transport infrastructure i.e. public transport and active modes, that Cherrywood SDZ has a high level of accessibility which aligns with the transit orientated ethos of the development aiding in the achievement of the ambitious mode share targets.

Planning applications submitted to DLRCC post January 2020 on average provide 1.22 car spaces per unit.

Approved An Bord Pleanála parking ratios are 36% (weighted average) lower than those recommended by DLRCC for the 14 applications reviewed i.e. 0.54 spaces per unit approved versus 0.85 spaces per unit recommended.

The reviewed BTR housing developments provide on average 0.20 car parking spaces per unit, ranging from zero to 0.50 car spaces per unit.

It is however noted that the Department of Housing determined that a sufficient quantum of BTR housing was either permitted or subject to consideration within the planning system. Subsequently, a technical update to the Design for New Apartments guidance was published in December 2022 which set out a revised SPPR 7 stating that BTR developments will no longer be permitted.

This review presents strong rationale for a reduction in standards in particular relating to 1-bed units whilst highlighting Cherrywood's high level of accessibility by public transport and active modes considering the current and proposed sustainable infrastructure.

4. Summary of Cherrywood Residential SMART Parking Strategy (Commissioned by Cherrywood Landowners)

4.1 Introduction

In response to amendments made to the parking ratios within the Cherrywood SDZ in January 2020, a residential SMART parking strategy was commissioned by the landowners in 2021. A SMART parking strategy aims to combine technology and innovation in an effort to utilise fewer resources in relation to parking. The strategy was developed by ARUP and includes proposals for revised parking ratios and a number of high-level recommendations in terms of available future technology.

Landowners have highlighted concerns that the designation of Cherrywood as an Intermediate / Peripheral Urban Location will have a negative impact on housing affordability, sustainable travel objectives and timely delivery of new housing supply.

It should be noted that DLRCC Council consider Cherrywood as an intermediate urban location and not peripheral due to its distance from Dublin City Centre i.e. ~14km.

4.2 Overview

A residential SMART parking strategy for Cherrywood was developed by ARUP in 2021 in order to provide a rationale for reducing the parking standards within the SDZ. The development of the strategy included the following:

- Policy Review
- Best Practice Review
- Examination of Travel Behaviour Trends
- Review of Cherrywood Travel Demand
- Strategy and Recommendations

4.3 Summary of ARUP Study Key Findings

4.3.1 Policy Review

The Cherrywood Development Scheme was originally developed in 2014, as such ARUP undertook a policy review as a number of key policies and frameworks had been updated post 2014; mainly the National Planning Framework i.e. Project Ireland 2040 and Design Standards for New Apartments.

The review noted that Project Ireland 2040 advocates for a performance-based criteria appropriate to location and public transport accessibility when considering car parking standards. The policy also outlines that new developments located in city suburbs should be subject to reduced parking standards.

The Design Standards for New Apartments (2018 latest version available at the time of the study) sets out Specific Planning Policy Requirements (SPPRs) for new apartment developments which take precedence over Local Authority Development Plans. If a development's location is considered as an accessible urban location i.e. within 10-minute walking distance from a rail or Luas stop then parking provision may be minimised accordingly.

The DLRCC Development Plan 2016-2022 was the applicable plan at the time of the study and set out parking standards for the Council area of at least 1 space per unit, with a standard of 1.5 spaces

per 2-bed apartment and 2 spaces per 3+ bed house or apartment. The standards also outline a degree of flexibility in regard to small scale developments only which may be considered for zero parking requirements if highly accessible by public transport.

The parking standards for Cherrywood SDZ were revised in January 2020 taking cognisance of updated policy as outlined above in particular The Design Standards for New Apartments (2018). However it should be noted that standards were not significantly reduced for BTR units.

The amendment reduced the standard for the town centre, village centres, and 1 bed units down to 0.9 spaces per unit. Two bed units were decreased to 1.2 spaces per unit, 3-bedroom apartments were reduced to 1.4 spaces per unit, and 3-bedroom houses were set to 2 spaces per unit in comparison to those set out in the DLRCC Development Plan.

AECOM Comment: Therefore it is considered that current parking standards within Cherrywood align with the DLR County Development Plan.

The policy review also provided an overview of the DLRCC submission to the Urban Regeneration Development Fund. The submission is for funding into the research and apply measures to create efficiencies in Cherrywood's required parking provision. The potential for the study is to enable more flexible solutions to managing parking demand, reducing space required to enable more car-free urban space and exploration of innovative solutions. This submission is currently ongoing and therefore no further comment can be provided.

4.3.2 Best Practice Review

The best practice review provided European and global examples of parking solutions including:

- Parking adjustment factors
- Unbundled parking
- Remote parking
- Reciprocal Parking
- Use of parking capacity software
- Future proofing car park structures

The review also included examples of developments which have been granted planning permission with low level or no car parking spaces provided these include:

- Hickeys Parkgate Street – Dublin City (481 units)
- Sandyford Central SHD (564 units)
- Shanganagh Castle – Shankill (600 units)
- Frascati Centre – Blackrock (102 units)
- Cardiff Lane – Dublin City (56 Units)
- Old School House SHD – Dún Laoghaire (208 units)

AECOM Comment: It is considered that a number of the development examples provided are not comparable to Cherrywood SDZ in terms of type i.e. some are SHD or LDA designated and / or are under a statutory SPPR for shared accommodation (2020 Apartment Guidelines) and also location i.e. city centre or number of units being provided in comparison to full build out of Cherrywood i. 8,700 units,

The review also outlines other SDZ locations in and around Dublin which detail lower standards in comparison to Cherrywood including Docklands and Clonburris.

AECOM Comment: It is considered that the Docklands SDZ is not directly comparable to Cherrywood due to its location and prominent employment usage.

Clonburris SDZ is currently served by a number of bus services and two heavy rail link stations, which is considered as superior provision in comparison to Cherrywood which is only directly served by one bus service and indirectly by two bus services. As such the use of reduced car parking ratios is more applicable to residential developments in Clonburris which benefit from enhanced public transport accessibility. It is however acknowledged that as Cherrywood is further

developed, public transport linkages may be improved. The study did not consider either Adamstown or Hansfield SDZs in the comparison which both have higher residential parking standards in comparison to the current Cherrywood standards.

4.3.3 Examination of Travel Behaviour Trends

The study considered both local and European travel patterns and how these have changed over time which have been summarised into the key statements below.

- Across Europe between the years 2000 and 2015 the linear trend for private car use had decreased whilst the linear trend for alternative modes had increased.
- The number of people commuting to work increased by 3% since 2011, yet the use of private cars for commuting reduced by ~2% between 2011 and 2016. People commuting to work using sustainable mobility increased by 1% between 2011 and 2016.
- The Canal Cordon Report 2018 (NTA & Dublin City Council) noted that there was a 37% increase in people accessing Dublin City by non-car modes between 2010 and 2018. The same report also notes that 16% fewer people were accessing the city by private car.
- The number of public transport passengers has increased in the Dublin area since 2015 with a 9% increase between 2018 and 2019. The most significant increase was noted as Luas passengers i.e. 75% increase in passengers since 2010.
- Vehicle licensing data shows that 20% fewer vehicles were licensed in 2019 in comparison to 2016 in Ireland.
- DLRCC car ownership per capita dropped from 0.6 in 2011 to 0.5 in 2016 (which is the equivalent to 1.4 cars per household)

AECOM Comment: It is considered that city centre mode share trends as outlined in the Canal Cordon Report are not comparable to Cherrywood SDZ. Furthermore a more appropriate metric for considering car ownership is per household as opposed to per capita,

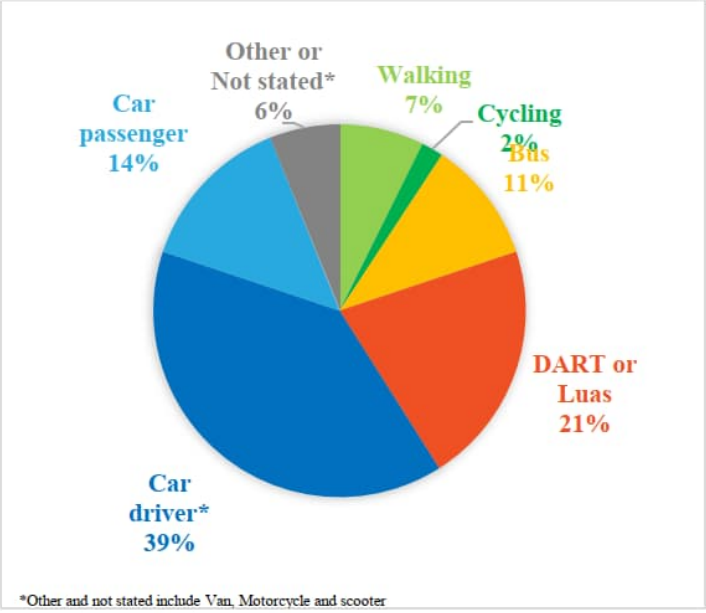
4.3.4 Review of Cherrywood Travel Demand

The study provides a baseline analysis utilising 2016 census data of the existing residential areas within Cherrywood which were constructed and occupied before the current planning scheme and parking standards were in places i.e. Druid Valley and Tully Vale.

This analysis shows a ratio of 1.25 cars per household and that 11% of households are car-free based on 539 residential units.

The existing Cherrywood modal split was also considered in the context of national mode share targets. As shown in Figure 4.1, the national target of 55% mode share for walking, cycling, public transport and car sharing is currently being met in Cherrywood.

Figure 4.1. ARUP SMART Parking Strategy – Existing Cherrywood Modal Share



The report acknowledges that 39% of residents commute by car, almost 90% of households own a car suggesting that each unit requires one space as a minimum and 30% of households own one or more car. This suggests that a large proportion of residents own a car for occasional use rather than for commuting.

To determine mobility patterns in and around Dublin, a number of comparable locations were analysed in terms of car ownership including Tallaght, Heuston South Quarter, Rockfield and Central Park as outlined in Table 4.1. These locations were deemed comparable due to proximity of Luas stops, mix of residential densities and office and commercial land-uses nearby.

Table 4.1. ARUP SMART Parking Strategy – Car Ownership Comparable Sites

Location	Ratio of Cars per Household	Percentage of Car-free Households	No. of Residential units
Tallaght Overall	0.83	33%	1459
Tallaght Apartments Only	0.78	34%	1059
Tallaght Houses Only	1.08	21%	227
Heuston South Quarter	0.69	41%	304
Rockfield	0.87	31%	102
Central Park	0.64	52%	97
Cherrywood	**1.25**	**11%**	**539**

As shown in Table 4.1, the parking ratios of cars per household are lower than those in Cherrywood and the percentage of car free households are also significantly higher than Cherrywood. However it should be noted that the Cherrywood development is currently at a low level of build out at present and as such the data outlined in Table 4.1 can only relate to two built schemes i.e. TullyVale and Gleann Na Rí.

However, the envisaged quantum of development for Cherrywood is estimated at around 8,700 dwellings which could further increase to up to 10,000 units with potential forthcoming amendments on completion which is significantly more than the locations chosen for comparison as shown in Table 4.1. It is considered that these locations would be more akin to individual development plots within Cherrywood.

It is therefore reasonable to conclude that the car ownership statistics associated with these other locations may not be directly comparable to a future car ownership trend for Cherrywood as a whole.

Due to the significant number of units proposed for Cherrywood on completion, future predictions on car ownership should be treated with caution as the implications of too little or too much parking provision would be sizable considering the number of units proposed. It is acknowledged that further assessment will be required and will form part of the upcoming URDF Call 2 Smart Parking Study.

The study also references parking demand surveys as outlined in the Clay Farm SHD application completed by DBFL. The surveys were single spot check surveys at midnight in a number of car parks associated with apartments. No detail is provided on time of year or day of the week on which the surveys took place.

The surveys showed that in all of the surveyed car parks, demand was less than the parking provision with the average ratio of cars parked per unit as 0.74. Whilst the strategy report acknowledges that the surveys were single spot checks, the data is then used to determine a general trend that demand for parking is generally less than 1 per unit.

AECOM Comment: It is considered that the use of a single spot check survey to determine a general trend is not a generally accepted methodology. It is also noted that the surveys considered apartment development types only and therefore the data is not considered applicable to Cherrywood which will provide a mix of residential types on completion.

4.3.5 Strategy and Recommendations

The study advocates a reduction in parking standards in Cherrywood based on the analysis presented within the report. There are two elements to a reduction in standards i.e. an initial reduction that could be implemented without any other aspects of the SMART strategy and a further reduction which would be achievable once the proposals outlined within the strategy have been implemented as shown in Table 4.2 overleaf.

Table 4.2. ARUP SMART Parking Strategy (on behalf of the Cherrywood Landowners) – Proposed Parking Standard Reduction

Development Type	Cherrywood Parking Standards	Pre-Strategy Reduction in Parking Standards	Post-Strategy Reduction in Parking Standards
Town Centre	0.9 spaces per unit	075 spaces per unit	0.6 spaces per unit
Village Centres	0.9 spaces per unit	0.75 spaces per unit	0.6 spaces per unit
Res 1, 2, 3 &4	0.9 spaces per 1 bed unit	0.75 spaces per 1 bed unit	0.6 spaces per 1 bed unit
	1.2 spaces per 2 bed unit	1 space per 2 bed unit	0.8 spaces per 2 bed unit
	1.4 spaces per 3 or more bed unit	1.2 spaces per 3 or more bed unit	1 space per 3 or more bed unit
	2.0 spaces per house with 3+ beds	1.5 spaces per house with 3+ beds	1.5 spaces per house with 3+ beds
Shared Car Spaces	Minimum of 0.01 spaces per unit	Minimum of 0.01 spaces per unit	Minimum of 0.02 spaces per unit

4.4 Conclusions

The SMART Parking Strategy developed by ARUP on behalf of Cherrywood landowners proposes a reduction in parking standards based on analysis from a number of sources including Census data and planning applications.

However, it is not considered that a reduction in standards is justified based on the analysis within the strategy report as a number of locations used as comparable sites in order to advocate for lower standards are not considered applicable in terms of location, quantum of development and / or development type.

5. Parking Standards Best Practice

5.1.1 Introduction

This chapter sets out a review of best practice in relation to parking standards. The purpose of this review will allow the current standards applied in Cherrywood to be benchmarked against other locations and similar development types.

It is acknowledged that the 2018 parking advice study undertaken by AECOM included a UK & RoI best practice review of parking standards as such this has been subject to a health check and expanded further to include other SDZ locations and European examples.

5.1.2 UK & RoI Best Practice

This review has considered residential parking guidelines across a number of locations in both the UK and RoI as summarised in Table 5.1 below.

Table 5.1. Review of UK & RoI Parking Standards

Location	Residential Parking Standards		Flexibility Criteria
Cork City	**Zone 1 – City Centre** 0.5 spaces per 1or 2 bed unit 1 space per 3 or 3+ bed unit	**Zone 2 – City Suburbs accessible by public transport** 1 space per 1or 2 bed unit 2 space per 3 or 3+ bed unit	n/a
Cork County	2 spaces per dwelling (house) 1.25 spaces per apartment		Flexibility provided on existing good public transport links or planned and/or a Transport Mobility Plan for the development demonstrates that a high percentage of modal shift in favour of the sustainable modes will be achieved through the development.
Belfast	**Communal Parking** **Unassigned** 1.25 spaces per 1 bed apartment 1.5 spaces per 2 bed apartment 1.75 spaces per 3 bed apartment	**In-Curtilage** 1.75-2.25 spaces per one bed terraced dwelling 2-2.25 spaces per two / three bed terraced dwelling 2.25-4.25 spaces per three bed semi-detached dwelling	Car free developments considered in inner urban locations only if proven that households will not own a car or keep it elsewhere. A reduced level of car parking provision

	1.5 spaces per one / two bed house 1.75 spaces per three bed house **Assigned** 1.5 spaces per 1 bed apartment 1.75 spaces per 2 bed apartment 2.0 spaces per 3 bed apartment 1.75 spaces per one / two bed house 2.0 spaces per three bed house	2.25-4.25 spaces per four bed semi-detached dwelling 2.5-4.25 spaces per three bed detached dwelling 2.75-4.5 spaces per four bed detached dwelling 3-4.5 spaces per five bed detached dwelling	may be appropriate where: • a site enjoys a high level of pedestrian accessibility to local facilities and the public transport network. This is likely to include sites within 10 minutes walking distance (c. 800 metres) of a town centre or significant district centre which is well served by buses or local rail stations. • the townscape character of the area surrounding the site would be undermined by in-curtilage parking; or • car ownership among future residents is likely to be below average. This could be the case in respect of social housing or housing for elderly people.
Bath	**City Centre** 0.5 space per dwelling in city centre	**Outside City Centre** 1 space per one bed dwelling 2 spaces per two / three bed dwelling 3 spaces per four or more bed dwelling 0.2 spaces per visitor	n/a
Liverpool	1 space per studio dwelling or 2 bed dwelling 1.5 spaces per unit with three or more beds		n/a
Edinburgh	0 min – 1 max 1/2 bed unit 1 min – 2 max 3/4 bed unit		Minimum and maximum standards provided considered

	1 min – 2 max 5+ bed unit		on case-by-case basis
Inverclyde	**Private housing** Minimum of 1 space per one bed dwelling Minimum of 2 spaces per two / three bed dwelling Minimum of 3 spaces per four bed or more dwelling Minimum of 0.2 spaces per visitor	**Social Housing** Housing Association - 0.2-0.5 spaces per dwelling, 0.3 spaces visitor parking per dwelling and 1 space per warden Amenity Housing – 0.5 spaces per dwelling & 0.3 spaces visitor parking per dwelling Sheltered Housing 0.25 spaces per dwelling & 1 space per warden	n/a

Strategic Development Zones (SDZs)

SDZs were established in planning legislation in 2000 enabling the Irish Government to designate parcels of land to be fast tracked through the planning process due to strategic national importance. SDZ's are generally a mix of residential and non-residential developments located on major public transport corridors

There are a number of designated Strategic Development Zones (SDZ) in the Greater Dublin Area other than Cherrywood including Adamstown, Hansfield, Clonburris, Grangegorman and Docklands.

Each of the SDZs are at varying stages of development, however a summary of implemented and / or proposed parking standards are summarised below:

- Adamstown
  - Demarcated parking provided on all roads and streets throughout the SDZ, with the exception of main access and busway distributor roads, sections for residential distributor roads and close proximity to junctions.
  - No more than 60% of residential parking spaces will be provided as private in-curtilage spaces.
  - Residential parking standards include 1 space per dwelling for one bed dwellings, 1.5 spaces per dwelling for two bed dwellings and 2 spaces for three bed dwellings.
- Hansfield
  - Residential parking standards include 1.25 spaces per dwelling for one bed dwellings, 1.5 spaces per dwelling for two bed dwellings, 1.75 spaces per dwelling for three bed dwellings and 2 spaces four bed dwellings.
  - A reduction in standards will be considered based on the immediate proximity to high quality public transport services considered on a case-by-case basis.

- Clonburris
  - On-street parking is not allocated to individual dwellings and should operate as shared spaces supplemented by Park & Ride facilities.
  - Car free housing may be considered in high density areas within the SDZ adjacent to public transport interchanges and within urban centres.
  - Residential parking standards are based on those outlined in the South Dublin County Council Development Plan 2016-2022. The standards are maximum parking standards and should not be viewed as a target.
  - Parking standards are dependent on the zone in which the development is located. Zone 1 residential standards are 1 space per one bed dwelling, 1.25 spaces per two bed apartment, 1.5 spaces per three or more bed apartment / two bed house and 2 spaces per three or more bed house.
  - Zone 2 residential standards are lower than Zone 1 and suggest 0.75 spaces per one bed apartment, 1 space per two bed apartment / one bed house, 1.25 spaces per three or more bed apartment / two bed house and 1.5 spaces per three or more bed house.
  - Zone 2 parking standards apply to areas within the SDZ designated with an accessibility level of 1, 2 or 3 with the remaining areas subject to Zone 1 parking standards.
- Grangegorman
  - Residential parking standards include 1 space per 10 beds in regard to student accommodation and 1 space per unit in regard to elderly housing.
  - Maximum of 1,150 car parking spaces will not be exceeded on site which includes the adjacent mental health facility parking.
- Docklands
  - Residential parking standards include 0.8 spaces per unit as a maximum standard.
  - Total maximum parking provision of 2,800 spaces across the SDZ.
  - Minimal car parking will be accommodated in order to support sustainable modes with provision significantly below the development plan maximum standards.
  - Potential for car sharing initiatives and limited on street parking will be provided mainly to accommodate disabled parking.

5.1.3 European Best Practice[11]

A number of European cities are responding to continued growth with urban expansion. New neighbourhoods are being created in order to house new residents attracted by increased job availability. Mobility now plays an important role in the development of new neighbourhoods as many transport systems are reaching their limits coupled with zero carbon emission commitments.

New neighbourhoods should be connected to public transport, sharing services provided and parking should be separated from living space and costs. Parking spaces are no longer automatically provided with a significant shift towards changes in policy of maximum parking standards as opposed to minimum.

[11] How to Make Parking Standards More Sustainable – European Platform on Sustainable Urban Mobility Plans – 2020 Civitas PARK4SUMP

A number of examples of parking best practice in new developments similar to Cherrywood are outlined below.

5.1.3.1 Darmstadt - Lincoln

The Lincoln Housing Area is a new housing area in the City of Darmstadt, south of Frankfurt. The site was a former US Army barracks which is being re-developed in to an urban traffic-calmed district with living space for around 5,000 residents. The site has a substantial mobility plan and uses every legally available option to make car use less attractive than sustainable modes.

As such parking standards have been reduced to **0.65 space per flat**; this ratio is comprised of **0.15 spaces close to flats for the mobility impaired and 0.5 spaces per flat located in parking garages at a maximum distance of 300m from the residence**. Car owners have to rent a parking space at the garages, and it is not possible to park anywhere else on the site.

Residents without a car do not bear any costs associated with parking. The alternatives for personal car use include a fleet of electric vehicles available for 4 hours a week free of charge for residents and for a low cost over and above the 4 hours, attractive public transport comprised of buses and trams, on site car and bike sharing including free to use e-cargo bikes, attractive cycleways and significant cycle parking.

5.1.3.2 Freiburg – Dietenbach

The Dietenbach District located in Freiburg Germany is currently in planning with construction anticipated to begin in 2025. The district aims to be carbon neutral providing around 6,500 apartments housing 15,000 residents. The various neighbourhoods are to be connected along diverse public spaces and green zones. It is proposed that Dietenbach will be a district of short distances encouraging walking as the main mode and with various mobility options to ensure that residents can travel without a car.

The district will be made accessible to public transport through tram line extensions, bicycle traffic will be connected to the cities fast cycle network. The planned modal split for the district is 80% sustainable modes and 20% motorised vehicles.

A parking standard ratio of 0.5 – 0.7 spaces per housing unit will be provided exclusively in neighbourhood parking garages. Parking will be unavailable in other locations within the district.

5.1.3.3 Zurich – Sihlbogen

The Sihlbogen district is comprised of 220 apartments located in the Zurlinden Cooperative in Zurich. The district was first occupied in 2013 and was the first neighbourhood in Zurich at that time with a mobility plan. As such an **aggressive reduction in parking standards was permitted as 0.3 spaces per apartment.**

Additionally the proximity to the railway line would have made the installation of the regular number of car parking spaces in an underground car park in Sihlbogen disproportionately expensive. The residents agree in their rental contract that they will not own a car. Car ownership is only possible upon application in justified cases.

The decisive factor in the development of this car-reduced quarter was the close proximity of a stop on the suburban railway line. Residents receive a voucher for the purchase of public transport tickets, which they can redeem for an annual ticket for Zurich. In addition to a commercial car-sharing offer, the cooperative also offers its own vehicle for borrowing, which is powered by electricity from solar panels on apartments.

Annual management reports to the city of Zurich, must evidence that the low number of parking spaces is sufficient. So far, the mobility concept is working and no violations of the ban on private car ownership by residents are apparent.

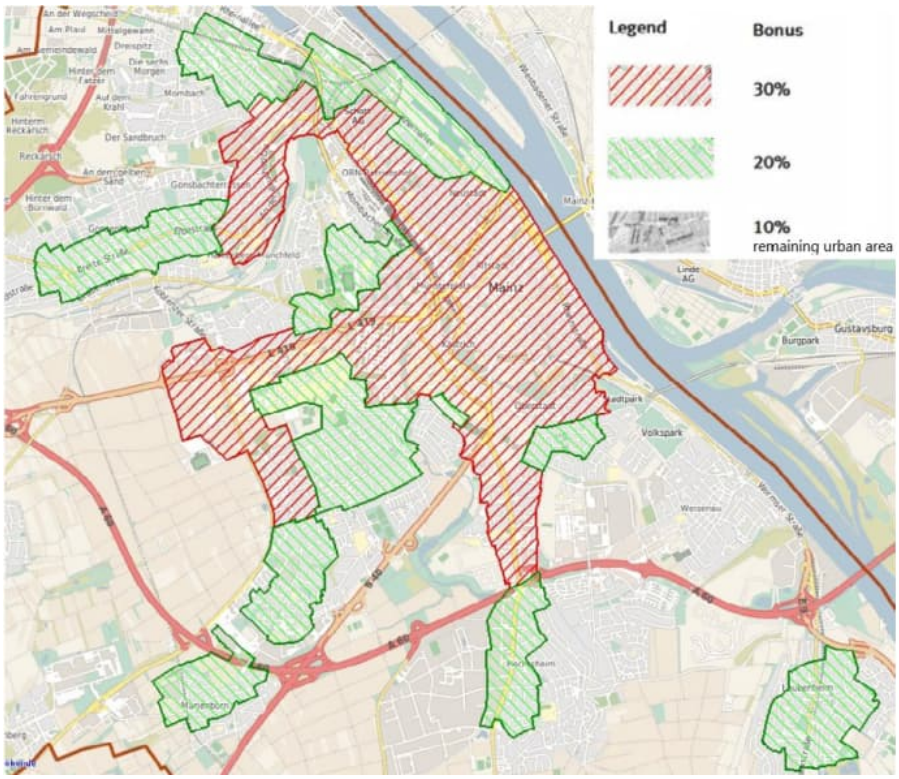
5.1.3.4 City of Mainz – Germany

Since 2015, the City of Mainz has used state building regulations to determine the necessary number of parking spaces for new construction projects. Parking space statutes define a public transport bonus based on quality of access. The public transport bonus is used to divide the city area as shown in Figure 5.1.

The regulation aims to take account of lower parking requirements in areas with good public transport connections whilst reducing construction costs at the same time.

As also shown in Figure 5.1; parking requirements can be reduced by between 10 & 30% depending on whether they meet certain public transport criteria.

Figure 5.1. City of Mainz – Public Transport Bonus Locations



PT-Bonus	Only Bus		Only Tram	
30%	≥12 Departures / hour	and ≤ 10minutes from main station	≥12 Departures/ hour	and ≤ 15minutes from main station
	or		or	
	6 - 11 Departures/ hour	and ≤ 5minutes from main station	6 - 11 Departures/ hour or	and ≤ 10minutes from main station or
	or		or	
	Walking distance to the Roman Theatre (600m)	and ≤ 10minutes from main station	≥6 Departures/ hour	and ≤ 5minutes from main station
20%	≥12 Departures/ hour	and 11 – 15 minutes from main station	≥12 Departures/ hour	and 16 – 20 minutes from main station
	or		or	
	6- 11 Departures/ hour	and 6 – 10 minutes from main station	6 - 11 Departures/ hour	and 11 -15 minutes from main station
	or		or	
	≤6 Departures/ hour	and ≤ 5minutes from main station	≤6 Departures/ hour	and ≤ 10minutes from main station
10%	All other public transport services (bus/tram) are within a 300 m radius of the public transport stops.			

5.1.4 Summary

Current parking standards in Cherrywood as outlined in Table 3.6 range between 0.9 and 2 spaces per unit depending on dwelling type.

In comparison to other parts of the UK and RoI, the current standards implemented in Cherrywood are considered low.

In comparison to other SDZs in and around Dublin, parking standards in Cherrywood are generally lower when compared with Adamstown, Hansfield and Grangegorman. The Docklands SDZ is noted with the lowest parking standards i.e. 0.8 spaces per housing unit as a maximum standard.

European examples of similar development types i.e. new urban districts show a more aggressive approach to parking standards with ratios ranging between 0.3 to 0.7 spaces per housing unit. The premise of the reduction is based on proximity to high quality public transport, on site and provision of other sustainable modes on site for use by residents. Interestingly parking is provided almost exclusively in parking garages located on site with on street and in curtilage parking not provided.

The review of best practice is considered to provide mixed rationale for a further reduction in current standards, as European examples show allocation of less than 1 space per unit which is unallocated and also unbundled, however current Cherrywood standards are already considered lower in comparison to UK & RoI examples.

6. Car Ownership

6.1 Introduction

This chapter considers car ownership trends and demographics within the Cherrywood SDZ as well as the wider Council area. It is important to ensure that car parking provision takes cognisance of ownership trends.

It is acknowledged that Census 2022 data in relation to car ownership is not yet publicly available and therefore the review is based on historical census data from 2011 and 2016. Changes in levels of car ownership may have occurred since 2016, however to what extent cannot be determined until the Census 2022 data is published.

6.2 Transport Trends 2021

The Department of Transport's Strategic Research and Analysis Division recently published the Transport Trends 2021 paper which provides an overview of Ireland's transport sector.

The paper outlines a number of key statistics relating to car ownership such as the latest Eurostat data (2019) which indicates that the level of car ownership is lower in Ireland than in other European states i.e., 7th lowest of countries considered, and the total number of licensed vehicles in Ireland increased by over 55,000 to 2.86 million in 2020, of which over 2.22 million are private cars.

Consideration of previously published Travel Trends reports shows that the total number of licensed vehicles has been steadily increasing from 2.7 million since 2017.

The number of *new* vehicles licensed was steadily decreasing between 2016 and 2020, however this has also bounced back in 2021 with a 22.2% increase from 2020 of which 75% were new private cars.

There are a number of other key points from the study which are considered of relevance to this study including:

- There was a total of 2.86 million licensed vehicles in Ireland in 2020.
- Vehicle Registration Tax (VRT) receipts decrease significantly in 2020, falling by over 20% To €751m.
- Motor Tax receipts decreased for the 6th year in a row by 2.6% - this can be attributed to a reduction in the number of vehicles taxed by engine size and reduction in the number of vehicles in tax bands C-G.
- The number of Small Public Service Vehicles (SPSVs) decreased by 9.3% to 19,347 vehicles in 2020. Taxis accounted for 68.5% of all SPSVs, a decline of 10.4% compared to 2019.
- The number of active SPSVs driver's licenses fell by 45% between 2009 and 2017 from 47,222 licenses to 26,012 licenses. Between 2018 – 2019 this downward trend reversed. In 2020 the number of active licenses decreased 4.5% to 26,105.
- The total number of licensed vehicles in Ireland increased by over 55,000 to 2.86m in 2020, of which over 2.22m are private cars
- The number of new vehicles licensed in 2021 increased, for the first time in four years, to 142,376, a 22.2% increase from 2020. A total of 101,853 new private cars were licensed, representing 71.5% of new vehicles licensed in 2021.
- Private cars remained the largest source of GHG emissions in the transport sector in 2020. Despite a 21.5% reduction on 2019 emissions, private cars accounted for 47.3% of total transport emissions.

- There were 47,054 electric vehicles (EVs) on the road in Ireland at the end of 2021, an increase of 81.9% from 2020. The vast majority of these vehicles (44,756) were private cars

Consideration of the trends outlined in the Transport Trends 2021 study would suggest that tax receipts for private cars has fallen, however the uptake in EVs has significantly increased and as such the drop in tax receipts may be a function of private car users choosing greener options.

Car ownership in Ireland is still high as over 2.22m of the total 2.86m licensed vehicles are categorised as private cars.

It is not considered that the recent travel trends in Ireland present rationale for a reduction in residential parking standards due to the steady increases in the total number of licensed vehicles including new private cars.

However, it is acknowledged that the Travel Trends report considers statistics for Ireland as a whole i.e. may be skewed by large rural locations and this may also not be reflective of Cherrywood SDZ's transit orientated development.

6.2.1 Recent UK Data – Vehicle Registrations[12]

More recent UK data published in August 2022 by the Society of Motor Manufacturers and Traders (SMMT) shows that new car registrations fell by 9% reaching 112,612 units in July which marks the fifth month of consecutive decline as a result of ongoing global supply chain issues.

Declines were largely driven by large fleets whilst consumer registrations remained steady at 59,847 units and as a result, private registrations in 2022 to date are now 3.7% up on 2021.

Battery electric vehicle (BEV) uptake grew 9.9% to 12,243 units to achieve a 10.9% market share for the month. Although this is the weakest monthly uplift recorded by BEVs since the pandemic, overall growth in the year has reached 49.9% to deliver a 13.9% market share, illustrating the volatility in the supply chain.

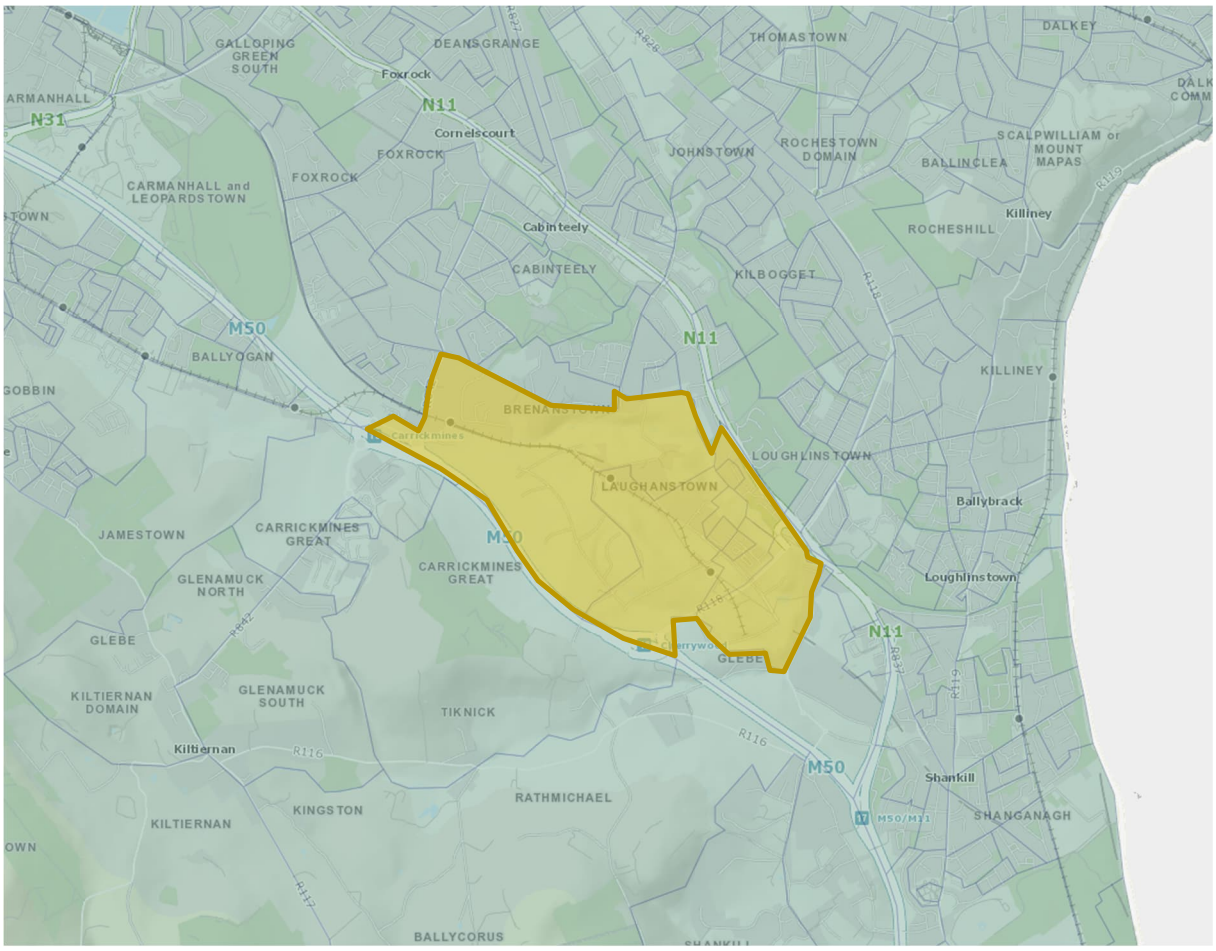
6.3 Cherrywood Car Ownership

Car ownership and population demographic data was extracted from the 2011 and 2016 Census for the Statistical Small Areas that comprise Cherrywood SDZ (see Figure 6.1 below). Exact locations of the small areas considered within the Cherrywood SDZ are show in in Appendix C.

There has been extensive development in Cherrywood post 2016 which has potentially resulted in changes to car ownership, however in the absence of 2022 Census data the most recent data available was analysed (i.e. 2016 Census data).

[12] New car registrations fall as supply issues continue to bite (fleetpoint.org)

Figure 6.1. Statistical Small Areas within Cherrywood SDZ



The total number of cars, average number of cars per adult and average number of cars per household in Cherrywood as noted in the 2011 and 2016 Census are set out Tables 6.1 and 6.2 respectively.

It is noted that those who did not state whether or not they own a car were excluded from the analysis.

Table 6.1. Cherrywood SDZ Car Ownership Statistics 2011

Small Area Code	No motor car	1 motor car	2 motor cars	3 motor cars	4≥ motor cars	Number of Cars	Total Cars	Average cars per adult (20 years+)	Average Cars per Household
267038004	4	12	24	16	10	66	148	0.86	2.24
267038007	9	50	53	5	0	117	171	0.78	1.46
267038008	8	31	37	7	1	84	130	0.80	1.55
267038009	14	48	32	7	1	102	137	0.74	1.34
267038010	16	50	34	7	0	107	139	0.68	1.30
267038014	18	68	30	2	0	118	134	0.67	1.14
267038015	13	62	23	2	1	101	118	0.61	1.17
267038016	30	60	26	3	1	120	125	0.63	1.04
Total	**112**	**381**	**259**	**49**	**14**	**815**	**1,102**	**0.63**	**1.35**

Table 6.2. Cherrywood SDZ Car Ownership Statistics 2016

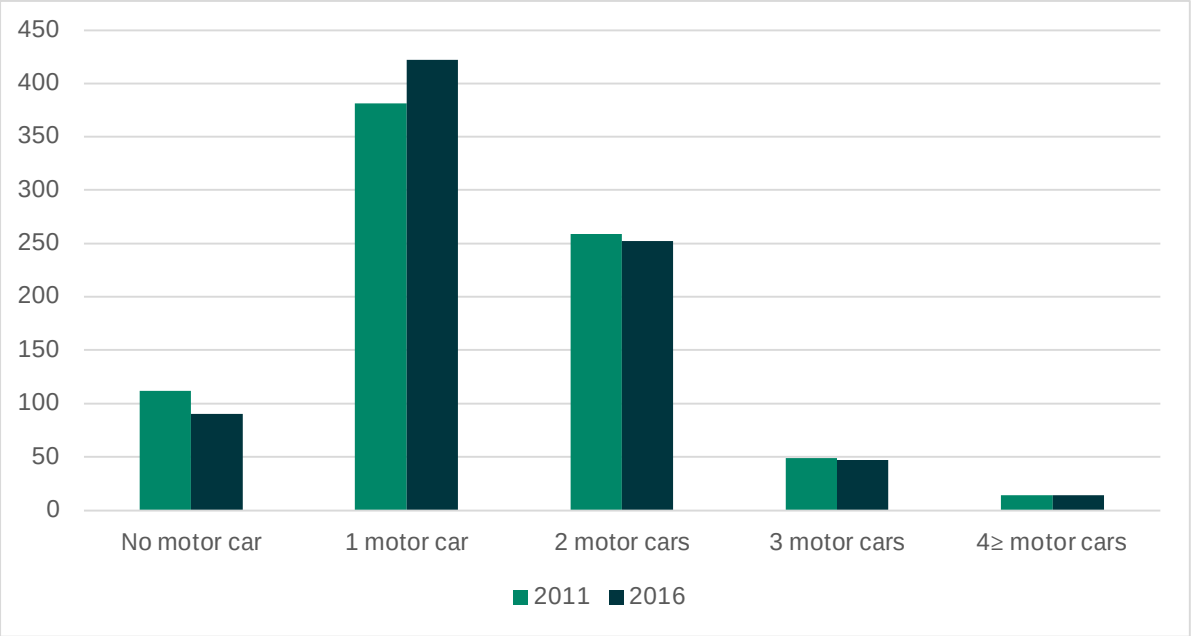
Small Area Code	No motor car	1 motor car	2 motor cars	3 motor cars	4≥ motor cars	Number of Cars	Total Cars	Average cars per adult (20 years+)	Average Cars per Household
267038004	2	11	25	10	11	64	135	0.82	2.11
267038007	10	48	47	10	2	118	180	0.76	1.53
267038008	5	44	25	6	0	85	112	0.68	1.32
267038009	13	49	35	6	0	107	137	0.65	1.28
267038010	15	56	37	3	1	116	143	0.64	1.23
267038014	18	68	37	4	0	129	154	0.63	1.19
267038015	12	68	25	4	0	112	130	0.60	1.16
267038016	15	78	21	4	0	119	132	0.61	1.11
Total	**90**	**422**	**252**	**47**	**14**	**850**	**1,123**	**0.67**	**1.32**

The total number of cars in Cherrywood remained approximately constant at around 1,100 cars between 2011 and 2016.

The average number of cars per adult increased from 0.63 cars per adult in 2011 to 0.67 cars per adult in 2016. However, the average number of cars per household decreased slightly from 1.35 cars in 2011 to 1.32 cars in 2016. This shows a mixture picture regarding car ownership in Cherrywood.

Figure 6.2 shows changes in the total number of cars per household within Cherrywood from 2011 to 2016.

Figure 6.2. Car Ownership per Household, Cherrywood 2011 and 2016



The total number of households with no motor cars decreased from 112 in 2011 to 90 in 2016. This is a decrease of around 20 households (19.6% or -3.9% per annum).

The number of households with one motor car increased from 381 to 422 between 2011 and 2016 (i.e. an increase of 10.8% or 2.2% per annum). During the same period there was a marginal decrease in the number of households with two cars i.e. less than 10 households.

The total number of households with three motor cars and 4+ cars remained constant between 2011 and 2016.

6.4 DLRCC Car Ownership

Car ownership and population demographic statistics were extracted from the 2006, 2011 and 2016 Census for the Council area. The total number of cars, average number of cars per adult and average number of cars per household in DLRCC in 2006, 2011 and 2016 are set out Table 6.3.

Changes in the total number of cars per household within the Council area from 2006 through to 2016 are also shown visually in Figure 6.3. It is noted that those who did not state whether or not they own a car were not included in this section.

Table 6.3. DLRCC Car Ownership Statistics

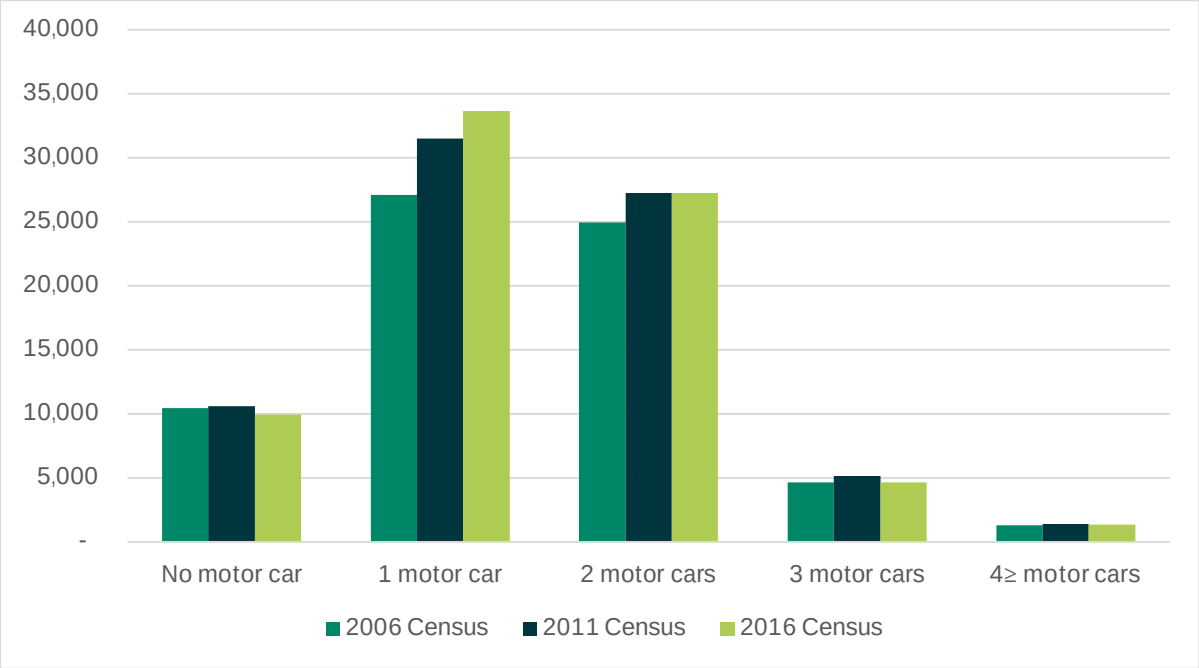
	2006 Census		2011 Census		2016 Census	
	Number of Cars	Total Cars	Number of Cars	Total Cars	Number of Cars	Total Cars
No motor car	10,448	0	10,583	0	9,915	0
1 motor car	27,084	27,084	31,457	31,457	33,633	33,633
2 motor cars	24,917	49,834	27,252	54,504	27,210	54,420
3 motor cars	4,650	13,950	5,128	15,384	4,638	13,914
4≥ motor cars	1,276	5,104	1,366	5,464	1,342	5,368
Total	**68,375**	**95,972**	**75,786**	**106,809**	**76,738**	**107,335**
Average Cars per Adult (20≥yrs)	**0.66 cars** per adult		**0.69 cars** per adult		**0.66 cars** per adult	
Average Cars per Household	**1.40 cars** per household		**1.41 cars** per household		**1.37 cars** per household	

The total number of cars within the Council area increased from 95,972 cars in 2006 to 106,809 cars in 2016. This is an increase of around 11,400 cars or 11.8% (1.2% per annum). The rate of increase between 2011 and 2016 was much smaller i.e. ~500 cars (0.5% or 0.1% per annum).

The average number of cars per adult remained typically constant at 0.66 cars per adult from 2006 through to 2016.

The average number of cars per household decreased slightly from 1.40 cars in 2006 to 1.37 cars in 2016. This indicates that the number of cars per household in the Council is decreasing, however this reduction is very small in nature.

Figure 6.3. Car Ownership per Household, DLRCC 2006, 2011 and 2016



This figure shows that the total number of households with no motor cars decreased by around 500 households between 2006 and 2016 (5.1%).

From 2006 to 2016 the number of households with one and two motor cars increased by around 6,500 (24.2% or 2.4% per annum) and 2,300 (9.2% or 0.9% per annum) households respectively.

There was a marginal increase in the number of households with four or more cars i.e. around 70 households. However, the number of number of households with three cars remained constant at around 4,600 during this period.

6.5 Cherrywood and DLRCC Car Ownership Comparison

Table 6.4 provides a summary of average number of cars per adult and cars per household in DLRCC and Cherrywood in 2011 and 2016. It is noted that the data for Cherrywood is an average of the data extracted from the Statistical Small Areas that comprise the development.

Table 6.4. Cherrywood and DLRCC Car Ownership Comparison

	Average Cars per Adult		Average Cars per Household	
	DLRCC	Cherrywood	DLRCC	Cherrywood
2006	0.66	-	1.40	-
2011	0.69	0.63	1.41	1.35
2016	0.66	0.67	1.37	1.32

Both Cherrywood and DLRCC experienced a marginal decline in the average number of cars per household between 2011 and 2016, reducing from 1.35 to 1.32 in Cherrywood and 1.40 to 1.37 in DLRCC. However despite this marginal decline, the total number of cars in Cherrywood remained consistent and the average number of cars per adult increased from 0.63 to 0.67.

It is noted that these changes in car ownership are marginal and as such 2022 Census data should be considered, when available, to better understand changes over time and if reductions in car ownership per adult/household are continuing.

In Cherrywood, the number of households with one car increased by 2.2% per annum over the same period whilst the number of no car households decreased by 3.9% per annum between 2011 and 2016. This therefore presents a mixed picture in terms of a rationale for reducing parking standards, and as such further analysis will be required on publication of more recent Census data.

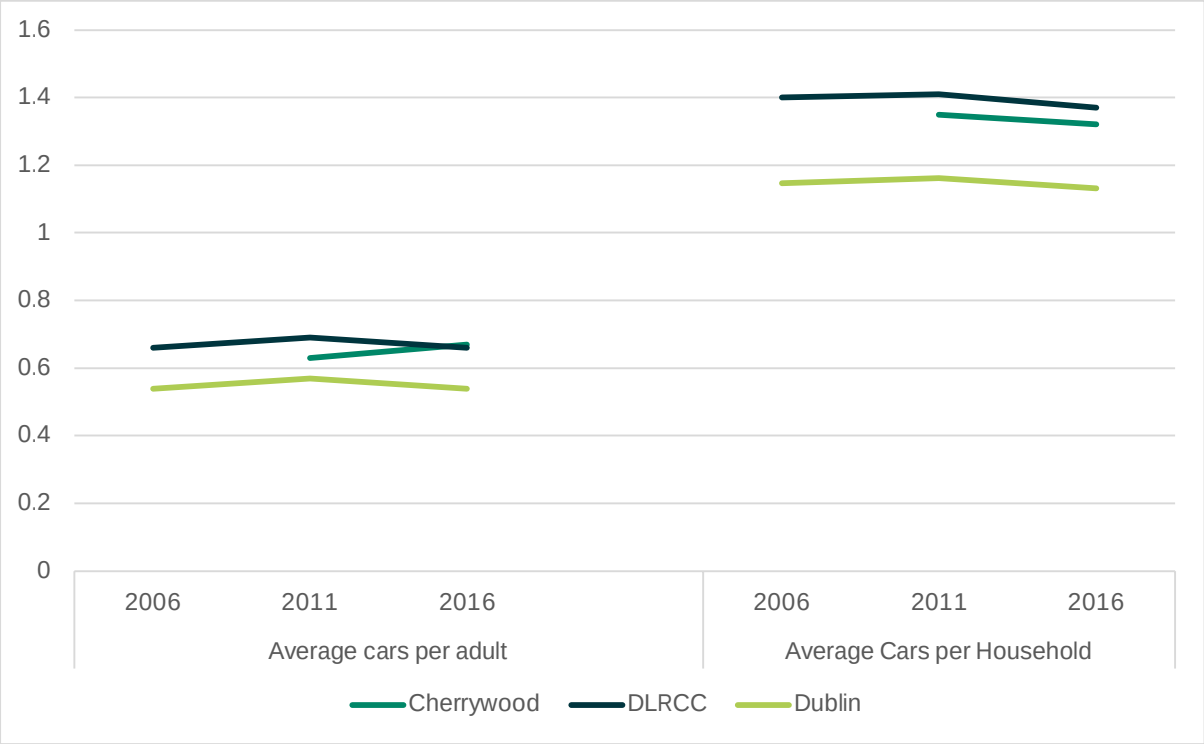
Furthermore, both Cherrywood and DLRCC experienced a reduction in the total number of households with no motor cars between 2011 and 2016. During the same period, the number of households with one motor car increased significantly in both DLRCC and Cherrywood.

There was also a marginal decrease in the number of households with 2 and 3 motor cars. The number of households with four or more cars typically remained constant from 2011 to 2016 in both DLRCC and Cherrywood. Generally this indicates that changes in car ownership overall in the Council area are reflected at a more local level

6.6 Car Ownership Vs Usage

The average number of cars per adult (20+ years) and average number of cars per household were extracted from the 2006, 2011 and 2016 Census data for Dublin, DLRCC and the Statistical Small Areas that comprise the Cherrywood SDZ, where data was available. The results of which are shown in Figure 6.4.

Figure 6.4. Changes in Average Cars per Adult and Household Over Time and by Area



Overall, the figure indicates that average car ownership per adult and household decreased from 2011 to 2016 in Dublin, DLRCC and Cherrywood. However, the rate of change is very small and resulted in 2016 average car ownership values reducing back to 2006 levels.

6.7 Summary

6.7.1 Cherrywood Car Ownership

Data from the 2011 and 2016 Census was extracted for the Statistical Small Areas that comprise Cherrywood. During this period the total number of cars typically remained constant at around 1,100 cars. The average number of cars per adult increased slightly from 0.63 cars in 2011 to 0.67 cars in 2016. However, the average number of cars per household decreased slightly from 1.35 cars in 2011 to 1.32 cars in 2016; this shows a mixed picture regarding car ownership in the development.

Furthermore, the number of households with no motor car decreased by 3.9% per annum from 2011 to 2016 and during the same period the number of households with one car increase by 2.2% per annum.

However, Cherrywood has undergone extensive development since 2016 and therefore this data should be treated with some caution. It is recommended that 2022 Census data, when available[13], is analysed in order to better understand current levels of car ownership in Cherrywood, as well as changes in ownership over time.

6.7.2 DLRCC Car Ownership

At a Council level, the total number of cars in DLRCC increased from around 96,000 cars in 2006 to 107,300 cars in 2016 (1.2% per annum), whereas the rate of increase between 2011 and 2016 was much lower (i.e. 0.1% per annum).

[13] Preliminary results published in late June 2022 related to population and housing only with car ownership data not yet available – CSO website advises that full data will not be published until 2023

The average number of cars per adult in DLRCC remained typically constant at 0.66 cars per adult from 2006 through to 2016. Also, the average number of cars per household decreased slightly from 1.40 cars in 2006 to 1.37 cars in 2016.

6.7.3 Cherrywood and DLRCC Car Ownership Comparison

In DLRCC the average number of cars per adult declined slightly from 0.69 cars per adult in 2011 to 0.66 cars per adult in 2016. However, during the same period the average number of cars per adult in Cherrywood increased slightly from 0.63 to 0.67 cars.

Both DLRCC and Cherrywood experienced a slight decline in the average number of cars per household between 2011 to 2016.

Generally changes in car ownership at Council level (i.e. DLRCC) are reflected at a more local level (i.e. Cherrywood), with both DLRCC and Cherrywood experiencing similar changes in car ownership between 2011 and 2016 e.g. a reduction in the total number of households with no cars, two and three cars.

6.7.4 Conclusion

Considering car ownership within Cherrywood SDZ in isolation, it is not considered that the statistics present a rationale for a reduction in residential parking standards. However, any reported increases / decreases in car ownership are considered marginal coupled with the fact that the analysis is based on historical data only i.e. 2011 to 2016.

Census 2022 car ownership data is anticipated to be publicly available in mid-2023 and as such further analysis is required to determine whether a reduction in car ownership within Cherrywood and the wider DLRCC area has been realised since 2016.

Since publication of the 2016 data, there has also been a significant shift in overarching policy including Project Ireland 2040, RSES, net zero commitments and the GDA Transport Strategy 2022-2042, coupled with a change in public attitudes towards sustainable modes following the pandemic.

The focus of wider policy and Cherrywood's ambitious mode share targets is on quality of travel for all, compared to historical car dominated approaches catering for commuters. Therefore as accessibility to sustainable modes for both short and longer distance journeys improves within Cherrywood, a reduction in residential parking standards would strengthen policy measures and reinforce change.

7. Impact of Covid-19 Pandemic and Cost of Living Crisis

7.1 Introduction

The COVID-19 pandemic affected all forms of transport due to a combination of Government lockdowns, an increase in working from home and widespread fear of contracting and spreading the virus in close contact situations; global road transport activity was almost 50% below the 2019 average by the end of March 2020[14].

The imposed lockdowns forced the public to rethink why they travel i.e. if it was essential to do so, as well as how they travel due to the limited availability of services.

Post-pandemic, the typical commute is no longer considered the norm and as such if people are required to attend a workplace for only a small proportion of their working week, the tendency to drive may be more prevalent.

However, this is now coupled with the current cost of living crisis (mid 2022) which is forcing people to re-think whether a car is now even an affordable option due to increased fuel and running costs.

A review of available published research and relevant articles has been undertaken to determine the impact of the pandemic on car travel / ownership as well as taking into consideration the current economic climate.

7.2 Covid-19 Pandemic Research Overview

The pandemic impacted more significantly on public transport usage than the private car. By late February 2022, bus usage had only recovered to around 75% of pre-pandemic levels and rail to 66% (Department for Transport, 2022).

Research undertaken by The Centre for Research into Energy Demand Solutions (CREDS)[15] asked the critical question of whether the turn away from public transport simulated an increase in private car ownership.

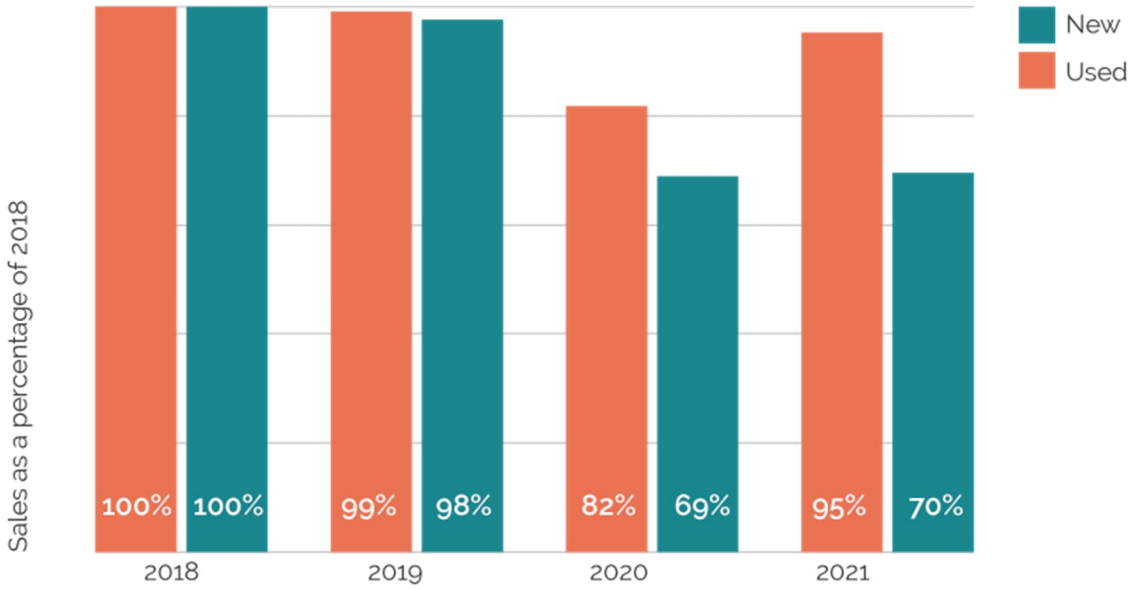
Data from the Society of Motor Manufacturers and Traders shows used car sales in 2021 were 5% below their 2018 levels and new car sales were 30% down as shown in Figure 7.1 overleaf.

Car sales have reduced since 2018: in 2020, used car sales were at 82% of 2018 levels, while new car sales were at only 69%. In 2021, used car sales increased to 95% of 2018 levels, but new car sales remained at 70%.

[14] Global Energy Review 2020 www.iea.org

[15] CREDS – Changing Travel in a Post Pandemic Society Less is more: Changing travel in a post-pandemic society - CREDS

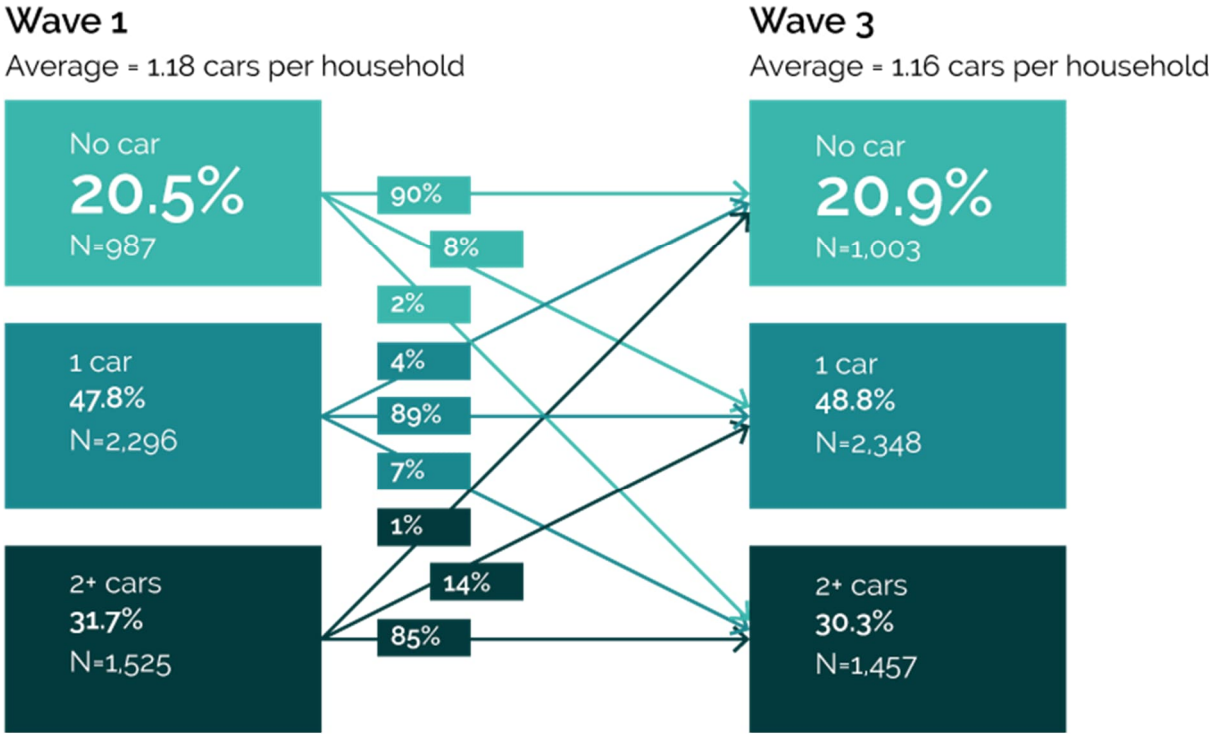
Figure 7.1. New and Used Car Sales 2018 to 2021



A CREDS longitudinal survey provides some valuable insights as to what has been happening to car ownership over time. Figure 7.2 shows that there is a small overall reduction of cars owned (from 1.18 to 1.16 – a reduction of 1.7%). Eight percent of households decreased car ownership whilst 7% increased, although the overwhelming majority of households surveyed have not changed how many cars they own.

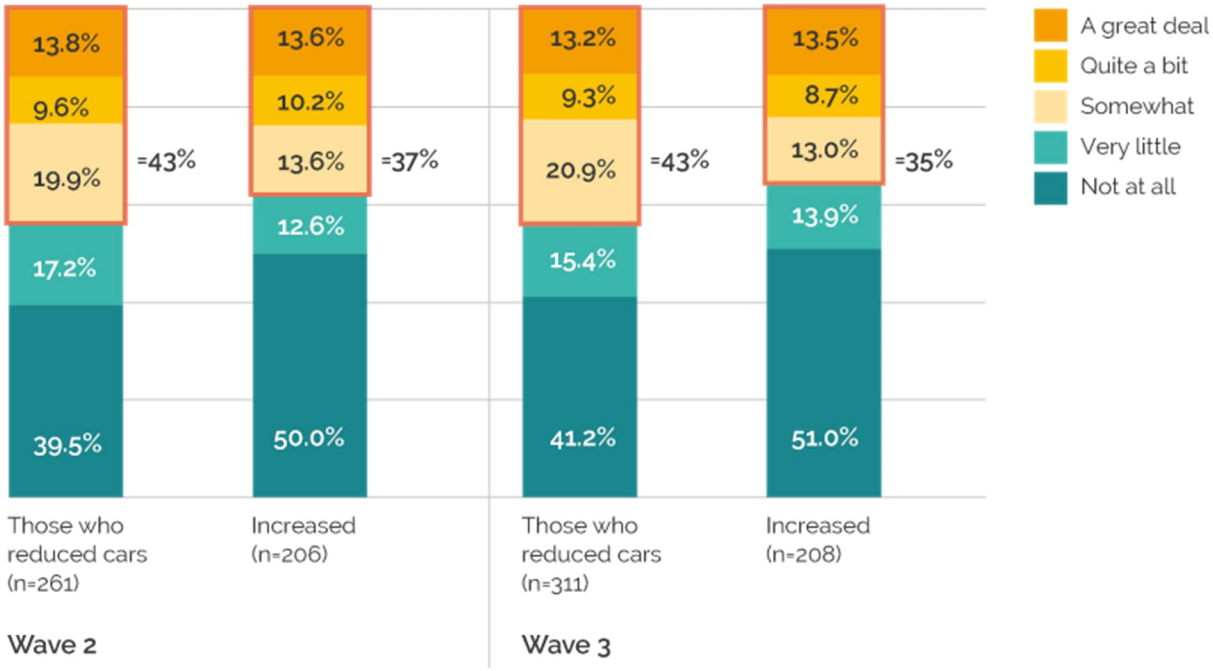
Whilst 10% of households that did not have a car got access to one or more, the biggest shift was 14% of the households with 2 cars before the pandemic reducing to one car. This is important for future policies connected to climate change as reducing car ownership to some degree will form part of a rounded strategy (Brand et al, 2021).

Figure 7.2. Changing patterns of household car ownership Wave 1 (June 2020) and Wave 3 (July 2021)



The pandemic may also be important to the decision of households increasing or decreasing car ownership. For the majority of respondents in both 2020 and 2021, the pandemic was not a factor in their decisions. However, more households said that Covid-19 was likely to have contributed to the decision to reduce car ownership than to increase it as shown in Figure 7.3 and this held true over Wave 2 (December 2020) and Wave 3 (July 2021).

Figure 7.3. The contribution of Covid-19 to changes in household car ownership levels

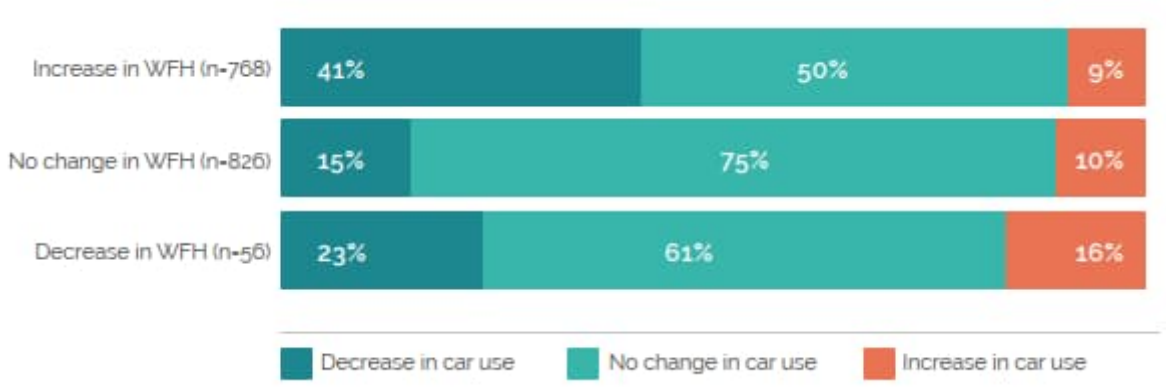


***(Time periods: Wave 2 is change in car ownership from start of the pandemic to December 2020. Wave 3 is change in car ownership since January/February 2021, 6 months prior to wave 3 survey completed)*

Research has shown that the road traffic levels never fully recovered, reaching on average 90% of the pre-pandemic levels. The main factor contributed on this reduction of car usage is the pandemic. During the pandemic people worked from home and after the restrictions were lifted many adopted a hybrid working model.

As a result, there was a significant decrease in the frequency of people's journeys to workplaces and consequently on car usage. Employees that returned to their offices on a regular basis increased their commute with private vehicles as presented in Figure 7.4.

Figure 7.4. Proportion of people in each working from home change segment split by change in car use, for the time period pre-Covid-19 (Feb/early March 2020) to June 2021



Based on research, the impact on car ownership due to COVID19 was not significant before and after the pandemic. In the UK, the purchases of new cars dropped to 35% and for used cars to 15% in the year to February 2021[16].

Nevertheless, the same research observed that households with no car decided to buy a car during or after the pandemic, while others are waiting for the restrictions to stabilize before making a final decision on selling their cars. The biggest change was identified on owners with two or more cars per household before the pandemic that reduced their ownership to one car. Changes in work situation (i.e., work from home), a shift to other transport modes or the consideration that the car is not necessary anymore lead to car reduction. Despite those changes, the average number of cars per household was not significantly altered due to the pandemic.

An Ernst and Young (EY) Global Limited Mobility Consumer Index Survey, conducted across nine countries by the end of 2020, found that a third of people with no car intended to buy one in the next six months as an alternative way of commute due to the coronavirus pandemic[17].

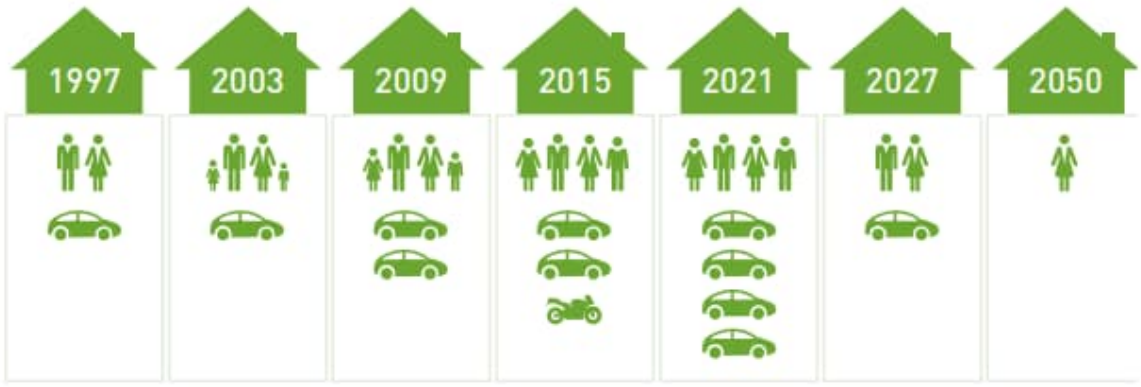
Moreover, an 18% increase in new cars was identified in New York state during 2020 due to the pandemic, skyrocketing the car ownership levels of the state[18].

Pre-pandemic, the lifecycle of household car changed over the years starting with one car per household, reaching to four cars. From the moment that a family starts growing until the children reach adulthood and decide to move out, the need for a car and the car ownership are constantly changing, depending on the number of family members that can drive and their need to commute. Therefore, it was challenging to define the right number of parking spaces per residential building and flexible solutions (i.e., neighbourhood garages) should be considered better usage of the parking spaces[19].

When considering the impact of COVID19 into the typical lifecycle of the car ownership, the number of cars over time may be reduced and such this presents a challenge for determining the appropriate parking spaces required.

[16] At a crossroads – Travel adaptations during Covid-19 restrictions and where next?
[17] Post-COVID car ownership boom to be led by millennials, EY finds (*https://www.am-online.com/news/market-insight/2020/12/08/possible-boom-in-car-ownership-to-be-led-by-millennials-finds-new-study*)
[18] The pandemic changed car ownership. How can cities adapt? (*https://www.smartcitiesdive.com/news/the-pandemic-changed-car-ownership-how-can-cities-adapt/604497/*)
[19] How to make parking standards more sustainable (*https://park4sump.eu/sites/default/files/2021-02/EN%20%28web%29.pdf*)

Figure 7.5. Varying parking space requirements in the life cycle of a household



7.2.1 NTA GDA Transport Strategy – Impact of COVID Pandemic Considerations

The NTA GDA Transport Strategy 2022 – 2042 has considered recovery from the Covid-19 pandemic and the ongoing debate of whether long term impacts on transport will be realised.

As there is a high level of uncertainty surrounding the long-term impacts, the NTA continues to plan for an environmentally sustainable future and as such the Transport Strategy proposes that the transport system supports National Planning Framework objectives in relation to:

- Consolidation of towns and cities
- Promote public transport as a major contributor to a zero-carbon transport system
- Set out how the increased demand for safe and attractive walking and cycling infrastructure will be met

The NTA has also developed an alternative future demand scenario which takes account of likely potential travel pattern changes and tests the robustness of the Authority's projects, plans and programmes.

The Alternative Future Demand Scenario has adjusted downwards the likely demand for future travel to account for potential increases in working from home, remote learning and online shopping. Other areas such as a potential decrease in business travel together with an increase in shorter local trips have also been considered. It is considered that this approach fully accounts for the potential long-term impacts of the Covid-19 pandemic in line with the best information currently available.

As the immediate transport impacts of Covid-19 through 2020 and 2021 settle into medium and long-term impacts, the NTA will respond and ensure monitoring and analysis remains up to date.

During the Covid-19 Pandemic, and in particular during the period of most severe restrictions on movement, people across the GDA were walking around their local areas in great numbers. There was a greater appreciation of the benefits of walking; of the need for high quality pedestrian infrastructure; of the deficiencies of the walking network; and a collective realisation of the need for streets to function as social spaces.

The NTA and local authorities implemented a large number of schemes to provide for this aspect of people's needs across the GDA. Footpaths were widened; streets were pedestrianised; longer crossing times implemented; and outdoor dining spaces created. Overall, in many places, a shift in emphasis from streets as thoroughfares to streets as places where people could move about on foot more easily and, moreover, stay longer, has occurred.

The Strategy notes that during national lockdowns and in particular Spring / Summer 2020, that the numbers of people cycling increased significantly. Practically traffic-free roads and distance limits encouraged more people to move around their local area in a different way.

The NTA and the local authorities responded to this, and to the need to maintain social distancing as the economy reopened, by rolling out a large amount of temporary Covid Mobility schemes including scheme which had been in long-term planning such as the Coastal Mobility Route in Dún Laoghaire-Rathdown and sections of the Liffey Cycle Route in Dublin City Centre.

It is inevitable that not all temporary measures will be retained via the formal planning process following the emergence from the pandemic but the change in mentality as to what is possible for cycling must be harnessed and built upon over the coming years to deliver the step-change in facilities that is being demanded.

The strategy notes that the period since March 2020 has been an extremely challenging one for public transport providers, operators, regulators and passengers globally. Demand for travel plummeted as lockdowns were enforced, and essential workers were travelling.

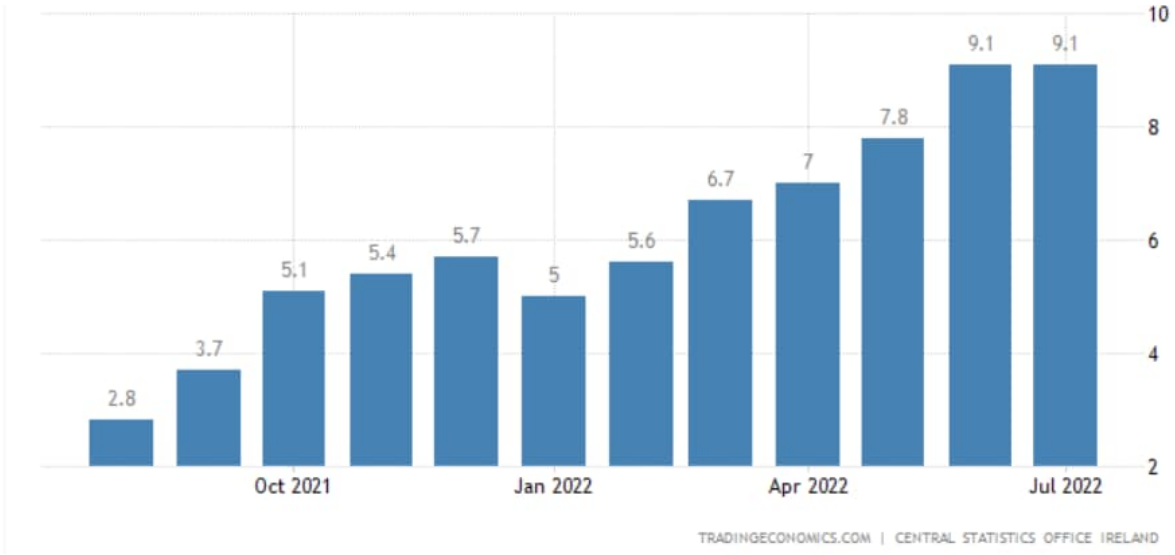
The most important aspect of this, in terms of public transport passenger numbers and long-term strategic transport planning, will primarily be the increased numbers of people working from home. Remote education and online shopping will also have an impact, but the future of the "rush-hour" commute to work will be a major determinant in the level of capacity required to be provided by public transport.

7.3 Cost of Living Crisis Overview

A number of economic issues have arisen in 2022. The increase in the cost of energy (~22%) and in fuel (~40%) since 2021 in Ireland, as a result of the war in Ukraine and other pressures, are leading to significant pressures on household budgets, people's living standards and also on business costs and economics. Impacts on travel patterns as a result of these pressures are not yet clear but are likely to be significant.

The annual inflation rate in Ireland remained at 9.1 percent in July of 2022, the highest level in 38 years. Costs rose at a slower rate for housing and utilities (21.6% vs 22.5% in June) and transportation (19.4% vs 20.4% in June).

Figure 7.6 – Ireland Annual Inflation Rate October 2021 – July 2022



Source CSO, Ireland

Furthermore, the global cost-of-living crisis and political instability has also had a major impact on the usage and ownership of cars due to the high cost on petrol and diesel prices.

Over one third of drivers have cut down on car journeys since the beginning of the year. Drivers are looking to reduce car use or replace with EVs as a way of coping with the increased prices on fuel[20].

A shortage of new vehicles for sale also added to the crisis and contributed to the reduction of car ownership over the last two years and the increase of cars prices[21].

However, there is a high level of uncertainty on how the cost-of-living crisis will impact car ownership and parking requirements long term. Whilst some drivers may use their cars less, unless they sell their vehicles, they will still require areas to park in.

7.4 Conclusion

The research shows that in response to the pandemic multiple car ownership reduced which may have occurred for a number of reasons such as more homeworking amongst multi-worker households which may have created opportunities for sharing access to a vehicle for work.

Where a car is at home in a single worker household then the potential for other household members to access it is also increased which in turn may have reduced the need for additional cars.

Car usage may decrease in order to save on fuel costs; however this does not necessarily translate into a decrease in car ownership. Even if drivers are aiming to reduce or replace vehicles, parking will still be required.

Finally, research on the impact of car parking due to the pandemic was not available, so the review was based on the car usage and ownership that are strongly connected with parking. The recovery from the pandemic along with the cost-of-living crisis are currently two unbalanced factors that cannot fully determine the impact of COVID19 on car parking in the absence of emerging targeted research.

As also shown, there is a high level of uncertainty surrounding recovery from the pandemic for policymakers and how this will shape future development and provision of services. Therefore over-arching policies are responding to the need to work towards net zero commitments underpinned by the change in attitudes to active travel and sustainable modes as shown during lockdowns and throughout the pandemic.

[20] Cost of Living Crisis Affects Seven in Ten Drivers (https://www.kwik-fit.com/press/cost-of-living-crisis)
[21] Car ownership falls as drivers hit by surging cost of fuel *(https://www.telegraph.co.uk/business/2022/05/31/car-ownership-falls-drivers-hit-surging-cost-fuel/)*

8. Potential Solutions

8.1 Introduction

This chapter sets out the pros and cons of potential parking solutions identified specifically for the Cherrywood SDZ based upon the findings of the analysis conducted within this report. It should be noted that these are potential solutions and that the Forward Planning Infrastructure (FPI) SMART Parking Strategy will consider alternative parking measures in detail, including implementation and consistency with the Cherrywood Planning Scheme.

8.2 Parking Provision

8.2.1 Parking Standards Flexibility Criteria – Allocation per Household

Flexible parking criteria relax the amount of parking required in return for developer support of alternatives such as sustainable mode infrastructure, contribution towards capital development or resident incentives.

In order to allow accurate assessment of whether a development qualifies for application of flexibility criteria, the criteria should be specifically and clearly outlined as a checklist.

Flexible parking criteria can be applicable to a number of development types and are used by many planning authorities / councils to regulate parking; a number of examples are provided below.

Sonoma County, California[22] – Flexible parking standards for residential and non-residential development via a renewable energy permit which requires the developer to provide on-site amenities to encourage alternative modes of transport and promote low impact development measures. The proposed standards allow a 20% reduction in car parking spaces where provision of additional facilities such as EV charging stations, bus shelters and cycle amenities are provided. Parking space credits are provided for non-residential development i.e. one parking space credit is granted for every three bike lockers etc.

Various Councils – United Kingdom – A number of councils in the UK have adopted a flexible approach to parking standards dependent on development type. Bracknell Forest Council may consider lower parking standards for affordable housing only on the basis of robust site-specific evidence which demonstrates lower demand, and which considers future issues such as BTR/BTS. West Sussex Council will consider reductions in parking up to 10% based on parking beat surveys and also on the promotion of sustainable travel modes and choices. It is however noted that a flexible approach to all development types is not common practice in the UK.

Umeá, Sweden[23] – Property developers in Umeá can provide 40% less parking provision required through the 'Green Parking Purchase' system which is a commitment to change the travel behaviour of residents and reduce car use by 40%. The flexible parking pay-off is a business model with the purpose of reducing the need for parking, promoting parking in co-usage facilities and gain contributions towards mobility management. The developer must provide measures to ensure that it is easier for residents to travel more sustainably including car pool solutions, delivery cabinets for food delivery, cycle storage and connections and also contribute financially towards the Mobility Management Fund which is used to encourage behavioural change in the area.

[22] https://permitsonoma.org/regulationsandinitiatives/renewableenergy/flexibleparkingstandards
[23] https://sisd.org.cn/earth/shownews.php?id=132&lang=en

Swedish Municipalities[24] - The majority of large cities within Sweden have adopted to implement flexible parking norms for residential development instead of using minimum parking requirements in order to influence car use and ownership.

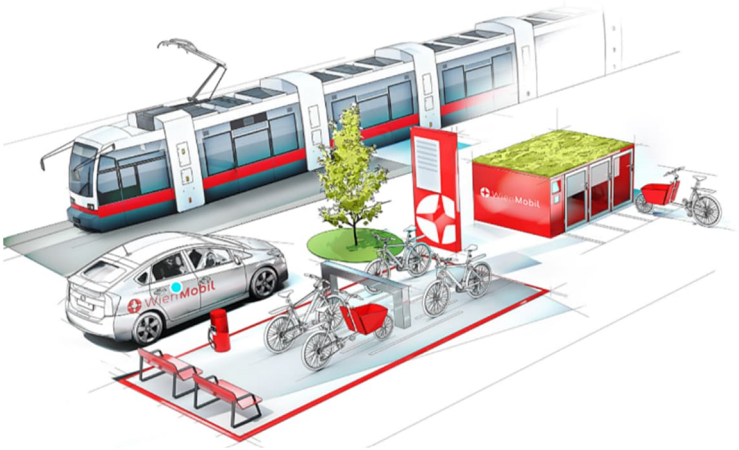
A reduction of up to 30% can be applied depending on a number of factors including mobility management such as car sharing, bike sharing and proximity to public transport facilities as shown in the image below.

Municipality	Minimum norm	Maximum norm	Flexible	Reduction in norm
Sweden				
Stockholm Stad	0.3 space/housing unit	0.6 space/housing unit	+	10 % - 25 % depending on mobility management implementations, eg. car sharing, bikesharing ect.
Gothenburg	0.54 space/housing unit		+	10 % if proximity to public transport
Malmö	0.5 space/housing unit		+	30 % depending on mobility management implementations
Uppsala	1 space/125 sq.m		+	1 space/200 sq.m if proximity to public transport or a reduction depending on mobility management implementations
Västerås	1 space/125 sq.m		+	10-20 % depending on mobility management implementations
Örebro	0.5 space/housing unit		+	1 space/250 sq.m if mobility management measurements are implemented, eg. car sharing gives a 20 % reduction.
Linköping	1 space/125 sq.m		+	25 % if car sharing is implemented
Helsingborg	0.1-0.75 space/housing unit[1]		+	15 % if car sharing is implemented
Jönköping	1 space/125 sq.m		+	15 % if mobility plan is developed, eg. car sharing and other measurements are implemented
Norrköping	0.2-0.5 space/housing unit[2]		+	15 – 30 % depending on mobility management implementations or proximity (300 m.) to public transport

8.3 Alternatives to Parking

8.3.1 Mobility Hubs / EHubs

A mobility hub is a location that offers different and connected modes of transport, each providing facilities and information to attract and benefit the user. When spread over an area, mobility hubs create a network of connected sustainable transport modes. Mobility hubs are most commonly located on key transport corridors in towns and cities.



CoMoUK identified key features and characteristics of mobility hubs[25]:

[24] http://danskedelebiler.dk/wp-content/uploads/2018/04/Flexible-parking-norms-effect-on-car-use-and-car-ownership-in-residential-housing.pdf
[25] CoMoUK, 2019. Mobility Hubs Guidance.

- Co-location of public and shared mobility modes
- Improved public realm and reduced private car space through the redesign of space
- A pillar or sign to signify the mobility hub, ideally displaying travel information digitally
- Provision of other non-transport facilities
- Cycle and walking routes to promote active travel
- Improved street design for inclusive access

Mobility hubs are a common feature of many European countries. Future mobility hubs should be designed following three key principles[26]:

- **Adaptability and Function.** Hubs should be adaptable to spatial constraints and mobility requirements. Additional services can be added in the future to complement its core functions.
- **Identity and Integration.** The hub should bring together multiple modes and services.
- **Sustainable Growth.** Flexible and sustainable growth over time, supports the local community, and acts as a catalyst for inclusive growth.

The benefits and limitations of mobility hubs differ with regards to where they are located, what services they provide and how well they are maintained. Some of these are listed in Table 8.1.

Table 8.1. Mobility Hubs Benefits and Limitations

Benefits	Limitations/Risks
▪ Creates an attractive, integrated, and viable alternative transport style which encourages sustainable modes, tackling key issues such as congestion, air pollution, private car dominance and social exclusion.	▪ Mobility hubs should be maintained and developed continuously to ensure they are effective and maintain interest.
▪ Makes multi-modal journeys more convenient through improved linkages.	▪ Security risk. As mobility hubs are usually 'open plan', poor security measures could result in theft and vandalism of facilities.
▪ Mobility hubs offer a range of transport modes allowing the user to have a wider choice.	
▪ Can encourage sustainable modes of transport as a 'first and last mile' option.	
▪ In many ways, mobility hubs can improve safety for example through improved public realm.	
▪ Promotes inclusivity through improved accessibility.	
▪ Developing mobility hubs allows space to be reallocated and priority can be given over to cyclists, pedestrians, business owners etc, creating a better overall user experience.	
▪ Mobility hubs create a 'home' for emerging services such as EV charging stations and E-Bikes and helps deal with the issue of street clutter.	

[26] ARUP, Future Mobility Hubs.

In response to global climate targets and to promote sustainability and accessibility in transport particularly within cities, eHubs provide shared and electric mobility services in dedicated on-street locations.

In order to provide real alternatives to the private car, eHubs provide different sustainable electric transport options for shared use including e-bikes, e-cargo bikes, e-scooter and/or e-cars. Sales of e-bikes have seen a significant increase prompted by the pandemic which has continued to accelerate, gaining more traction than EVs in Europe and North America[27].

eHubs provide a high-quality and diverse offer of shared electric mobility services to dissuade private car ownership and provide opportunities to increase shared and electric mobility.

eHubs can vary in size (minimalistic, small, medium or large), type of location, and type of offer i.e. they can be small and located in residential areas, with just one or two parking bays, or bigger and positioned close to stations and major public transport interchanges with the key element being that they are located where supply and demand meet.

The European Regional Development Funds Interreg North West Europe eHubs project[28] outlines a diversified approach from seven partner cities across five countries in North-West Europe who implement and promote eHubs in order to pave the way for other cities to do the same.

Some examples of pilot cities involved within the programme are outlined below.

Amsterdam

Amsterdam is the biggest city in the Netherlands and through participation in the Smart Mobility Programme, works together with partners on the impact of new technologies on mobility. Provision of eHubs is coupled with a bottom-up approach focused on first mile of travel and policies on parking reduction.

By offering Amsterdam residents affordable and accessible alternatives, local authorities aim for all Amsterdam residents to travel in a cleaner and smarter way with eHubs as a central part of this. The goal is to facilitate 15 to 20 eHub locations in the city in the coming years.

Dublin (ESB eBikes)

ESB eBikes, a pilot eBike rental scheme, offers an affordable, shared and low-carbon mobility service to commuters. ESB has been in discussions with local authorities to identify the most suitable sites for eHubs along the primary commuter pathways into Dublin, in order to allow commuters to travel by eBike instead of driving a private car into the city.

While journeying a long distance using a push bike may be unattractive, cycling on an eBike is far more accessible. As such, the scheme is primarily aimed at those needing to commute from the outskirts of the city and beyond towards the city centre.

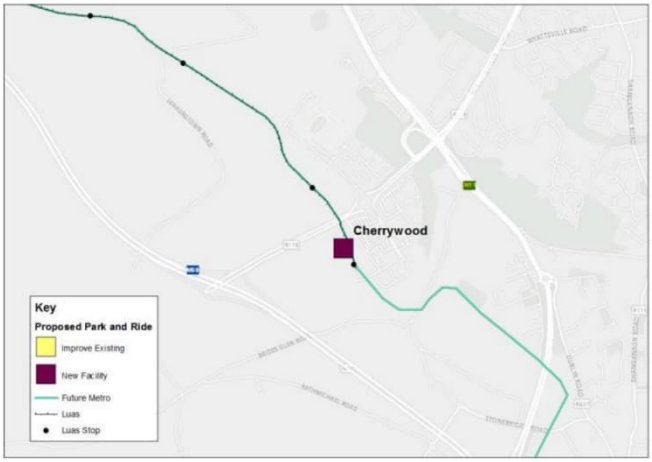
8.3.2 Park & Ride Sites

A previous study conducted by Jacobs in 2015 assessed the role of Park and Ride in the Greater Dublin Area Transport Strategy. Cherrywood SDZ was identified as a key location for either rail-based Park and Ride serving Metro South and Luas Green Line or strategic bus Park & Ride to service the N11 Quality Bus Corridor.

[27] https://techhq.com/2022/04/why-e-bikes-are-fast-becoming-the-green-transport-of-choice/
[28] https://www.nweurope.eu/projects/project-search/ehubs-smart-shared-green-mobility-hubs/#tab-1

The study proposed that a potential rail-based Park & Ride site could be located at the terminus station (Brides Glen). The proposed site is a brownfield site located beside the R118 and adjacent to the N11 and M50. The provided rationale for the site location includes:

- Local site consistent with the community goals of Cherrywood SDZ relating to walking, cycling and public transport.
- Increasing congestion from motor vehicles generated outside of the local area is not encouraged. However, Park and Ride will provide convenient access for local trips within 5km.
- High level of Luas Green line segregation will create competitive journey times and a high level of connection which will be increased upon opening of Luas Cross City.



However the study did note that this site should only be considered for inclusion as part of the Metro South scheme.

The study also proposed a strategic bus Park & Ride adjacent to the N11 radial route however a potential site was not identified and analysis of the viability of an express bus service had not been completed at the time.

The closest Park & Ride site to Cherrywood is Carrickmines Luas Park & Ride which is approximately 4.5km via the M50 from the Cherrywood Luas stop.

The NTA Park and Ride Strategy (2021) does not identify any proposed Park and Ride facilities associated with Cherrywood and therefore further consideration may be given to additional Park and Ride locations located outside of the town centre subject to consultation with NTA.

A Park & Ride facility comprised of 194 spaces is proposed within Plot TC4 in the Town Centre of Cherrywood as part of the planning scheme which aligns with the SDZ sustainable mode targets. It should be noted that the Park and Ride facility is envisaged as basement level parking.

However, it is considered that Cherrywood residents should be encouraged to use active modes to access the public transport from the town centre. Therefore, depending on usage levels once built, consideration could be given to re-purposing this basement level park and ride for active travel modes or as part of a mobility hub as outlined in sections 8.3.1 and 8.10 of this report. It should be noted that change of use would require consultation with both NTA and TII.

8.4 Smart Parking

8.4.1 Automated Number Plate Recognition Technology

Automated Number Plate Recognition (ANPR) cameras are installed at strategic locations within larger car parks to track vehicles within the parking area and provide users with information on where they have parked the car via information kiosks situated at the payment stations or via parking Apps. ANPR cameras can be retrofitted and added to existing solutions to increase the functionality of a car park. Alternatively, ANPR cameras can monitor car parks and guide drivers to parking spaces. The following provides a very basic overview of the assumed mode of operation of the proposed ANPR system:

- ANPR camera takes a picture when it identifies a registration plate

- ANPR camera isolates the plate, adjusts the brightness and contrast and segments it into characters
- Software analyses the pattern of each character and converts the image into text
- Data is sent over IP or over a serial connection to a central software system
- Nearby parking enforcement attendants can be alerted to a vehicle which has overstayed their allotted parking period, or the system will automatically issue penalty notices when the vehicle has exceeded its allotted parking duration of stay.

The introduction of ANPR could be used for other applications, such as an access control system for secure parking areas, journey time monitoring and bus lane enforcement. Along with the monitoring aspect of the system, a critical element for the software is to collect and process sufficient data to ensure that any violation of the parking regulations can be successfully issued and prosecuted by the local authority. This would require an image of a vehicle entering / exiting the car park, a close-up image of a vehicle's number plate, a date / time stamp on the image and details of the parking location (name / level / etc.).

Any software system would need to conform to the requirements of the Data Protection Act. This typically means the provision of a secure system and the appropriate level of data storage for any information retained by the local authority. However, it should be noted that open ANPR systems can have as low as 86% licence plate reliability.

8.4.2 Bay Monitoring System

There is limited on street parking proposed within Cherrywood, however parking bay vehicle detector sensors could be installed into individual parking spaces and therefore may be applicable to village centre locations. Bay sensors use infrared and / or electromagnetic technology to record the presence of a vehicle. The vehicle's length of stay is also recorded. Occupancy data is then wirelessly transmitted to a central software system. This can alert nearby traffic attendants to parking infringements.

Real-time parking occupancy data can also be available online which notifies drivers to the most convenient and cheapest parking space in their local area. The data is utilised by management systems such as space and permit management, Variable Message Signage (VMS) and parking enforcement. Bay sensors have a greater than 99.7% vehicle detection rate.

In 2014, the London Borough of Camden installed 282 parking bay sensors at various on-street locations. The scheme was designed to reduce congestion and pollution caused by traffic searching for a parking space. A similar scheme was introduced in Cardiff in 2015.

The scheme aims to reduce the amount of time drivers spend searching for a space and in turn reduce emissions and congestion. However, the system requires a robust maintenance regime to ensure it remains accurate, and during installation/maintenance parking bays may be temporarily out of use which may increase operational stress on other sites.

The City of Westminster, London used smart parking technology in 2009 to trial cashless payments and infra-red bay sensors. The aim was to reduce the time taken for drivers to find an available space, optimise parking utilisation and reduce revenue loss. It is estimated that the Council will receive a return on their investment of £2.8million over 5 years.

The scheme will provide real time data which will provide an understanding of parking trends. This will enable the City of Westminster to optimise parking and to limit the need for expensive increased parking provision, by making best use of existing infrastructure.

However, the pilot covers a limited area and therefore a full-scale scheme will require further investment. Also, this is infant technology and unforeseen technological issues may arise.

8.4.2.1 Overhead Sensors

This system is only applicable for multi storey parking use. Parking sensors detect the presence of a vehicle in a given parking bay. Each parking sensor is connected to an overhead indicator. The indicator utilises low voltage wire caballing from shared power supply units.

LED lights on the car park roof display either a green or red light. The LED light colour corresponds to space availability i.e. green light means the parking bay is available and a red light denotes the parking bay is being utilised by another vehicle. Blue lights indicate the presence of accessible parking bays and magenta lights denotes vehicles parked in contravention.

8.4.3 Inductive Loops

Inductive loops are still one of the most common methods of detecting vehicle movement. Loops are installed within the road surface and vehicles are detected by changes in the inductive field strength.

The typical the accuracy of effectively installed inductive loops is in the region of 95%. The main advantages of this form of monitoring are that they are a low-cost option and are easy to install and provide a reliable level of accuracy. The main disadvantages are they cannot be installed in some road surfaces, e.g., steel reinforced concrete and need to be replaced if the road surface is re-laid, incurring high maintenance costs.

8.5 Illegal / Nuisance / Overspill Parking

The Cherrywood SDZ Planning Scheme provides limited on-street parking within the development. Therefore, it is important to consider that regular monitoring and enforcement of these on-street spaces may be required to ensure that parking is only utilised by its intended users and not misused by local residents etc. This will also encourage a higher space turnover to ensure that a high number of users benefit from the limited on-street parking provision.

Parking monitoring can be conducted using a number of potential systems such as bay monitoring systems, inductive loops and ANPR technology, the benefits and limitations of which are outlined in Section 8.4.

8.5.1 Enforcement Considerations

There are two types of parking attendants: on site traffic attendants and mobile parking attendants, both of which are generally employed via private sector service contracts. For on street enforcement, potential cost implications include patrol costs and issuing of Penalty Charge Notices (PCNs) which is then offset by the revenue recovered. As such there is potential for enforcement to be cost neutral given the limited on-street parking available within Cherrywood.

On-site parking attendants can operate on site full time or on pre-specified days during a particular time period. On-site parking attendants are suitable for large parking sites such as pay and display sites or areas where there are significant volumes of vehicles parked in contravention of traffic orders such as city centre areas or train stations.

On-site parking attendants are visible. Therefore, parking users are more likely to obey parking restrictions. Parking attendants have access to cameras and handheld mobile devices to accurately and efficiently document vehicles which are parked in contravention and thus issue the vehicle with a PCN.

Mobile parking attendants operate in small parking facilities and on a part-time basis. Mobile parking attendants can visit parking sites randomly or at set intervals during the day (as agreed between the attendant and the parking operator). Mobile parking attendants are equipped with a wireless GPS monitoring device, camera and handheld device for documenting vehicles that are parked in contravention and for issuing PCNs.

8.6 Neighbourhood Parking

Neighbourhood parking refers to parking facilities which are not situated directly adjacent to a user's residence, instead they may be located on the periphery of a residential area.

The provision of neighbourhood parking reduces the impact of providing space for cars in urban areas as spaces typically utilised for on-street / private residential parking can be used for other purposes such as walking / cycle pathways, green space etc. Pedestrian and cyclist safety is also improved as the need for car access along cul-de-sacs and access routes is reduced.

There is a need to provide alternative sustainable mobility options such as cycle parking, bike-sharing, enhanced public transport offering etc in order to increase the attractiveness of this model and encourage participation by residents.

It is however acknowledged that provision of neighbourhood parking requires buy-in from landowners, particularly in terms of potential site identification as well as other considerations such as management of the facility.

8.6.1 Vauban, Freiburg[29]

In the Vauban-Valley neighbourhood of Freiburg residents are provided with parking in the form of multi-storey car parks / garages on the periphery of the neighbourhood. Parking spaces within the garages were offered to residents at actual cost.

In Vauban-Valley, the majority of residential dwellings do not provide private parking spaces nor are public parking spaces provided along residential streets. Residents must instead purchase a parking space in one of two car parks situated on the edge of the neighbourhood. An area will be reserved to enable the potential future expansion of parking in another privately owned garage in the neighbourhood, if required.

Residents who wish to reside in the neighbourhood without a privately owned vehicle must sign a declaration stating that they will not purchase a car. Residents living in this neighbourhood without a privately owned car pay a one-off payment of 3,500 euros in order to finance the area.

The neighbourhood is connected to the centre of Freiburg through the tram system, which also provides connectivity to the rail station within 15 minutes. There is also integration with the local cycle network. All of which enhances mobility for local residents.

8.6.2 Dietenbach, Freiburg[30]

The proposed new district of Dietenbach is situated four kilometres west of Freiburg and measures around 107 ha in size. A development framework for the city has been developed and the district will provide up to 6,900 affordable apartments for 15,000 people. It is anticipated that the district will be completed by 2042.

The aim of the new district is to create *'a district of short distances that provides all the important basic services on site. Living, working, care, traffic and recreation are closely intertwined.'*

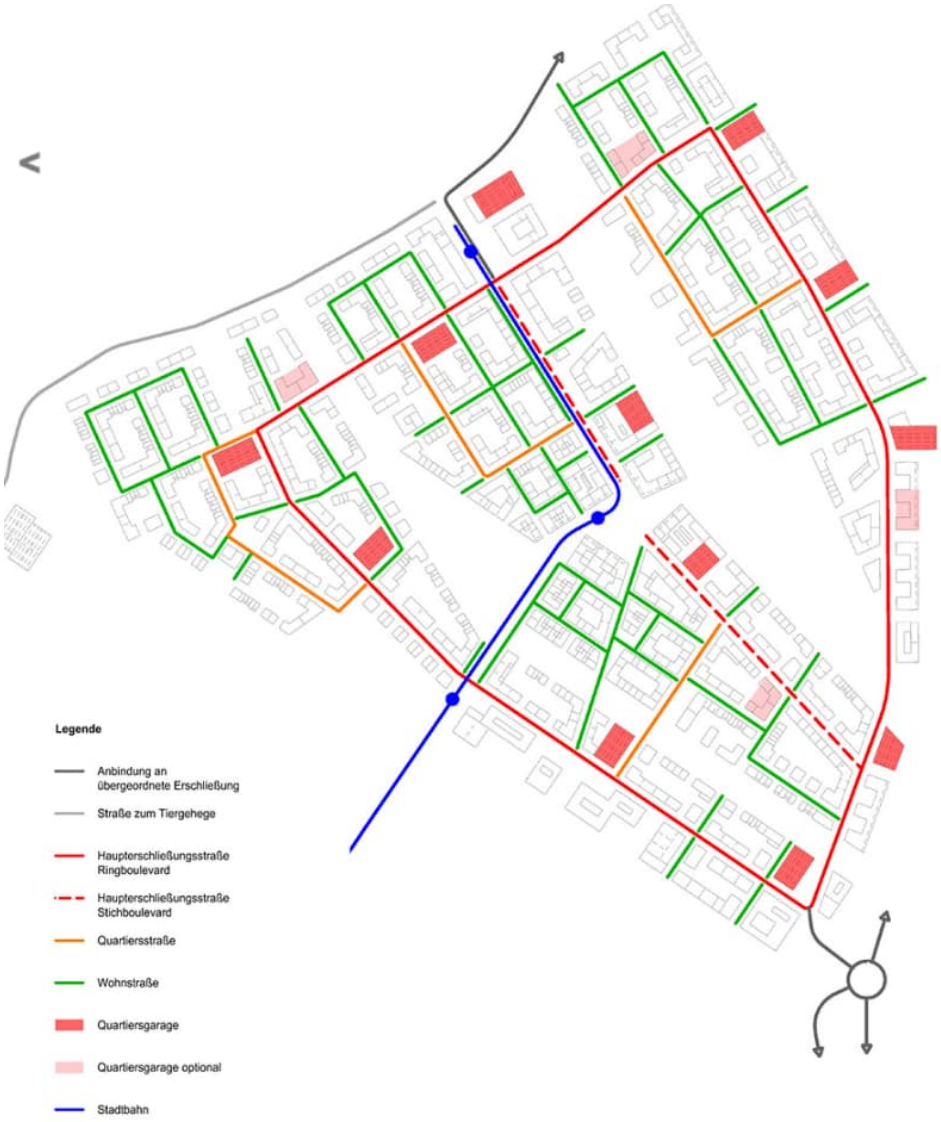
The district has been designed to enable high mobility without the need for residents to own vehicles; therefore promoting a low degree of car ownership. Instead, light rail, cycle networks, car-sharing, bike-sharing and cargo bike rental will promote and support sustainable mobility within the district.

A total of 12 high-rise garages (shown in red on image) will be provided for residents to enable the residential streets to be kept largely free of parked vehicles and to be designed with traffic-calming. A further four optional sites for parking garages have been identified (shown in pink on image). Residential streets can be utilised for loading / unloading, with disabled parking bays designed upon request.

These neighbourhood garages will be situated on the primary traffic access routes into the district so that vehicles can be intercepted early. The garages will also provide car sharing options, rentable lockers, bicycle workshops etc in order to enhance mobility services provided onsite.

[29] Parking Standards as a Steering Instrument in Urban and Mobility Planning: How to make Parking Standards more Sustainable. European Platform on Sustainable Urban Mobility Plans 2020
[30] https://www.freiburg.de/pb/1631506.html

In terms of commercial parking, visitor / staff parking will be provided in the form of underground car parks.



8.7 Unbundled Parking[31]

Unbundled parking separates the cost of housing and parking and provides residents with the opportunity to rent or purchase car parking space(s), if required. The efficiency of car parking spaces is increased through unbundled parking as it avoids the instance whereby a resident does not own a car and there is an available parking space adjacent to their dwelling. Therefore, parking space utilisation is optimised which in turn enables the provision of lower car parking standards per unit.Data from the TransForm Green TRIP Parking Database32 was extracted in 2015, which collates data from multi-family residential sites. It is noted that only seven of the sites within the database provided unbundled parking. On average the residential sites with unbundled parking provided 0.21 spaces per unit fewer compared to sites with bundled parking.

8.7.1 San Francisco[33]

A 2010 study in San Francisco analysed the impact of providing unbundled parking in residential buildings in tandem with car sharing spaces. The study found that these actions had reduced household vehicle ownership rates as apartments with unbundled parking / car sharing provision

[31] https://mobilitylab.org/research-document/unbundling-parking-costs-is-a-top-way-to-promote-transportation-options/
[32] https://parkingpolicy.com/reduced-requirements/#_ftnref2
[33] https://parkingpolicy.com/reduced-requirements/#_ftnref2

had an average vehicle ownership rate of 0.76 vehicles per unit compared to 1.04 vehicles per unit for apartments without unbundled parking / car sharing provision.

8.7.2 Virginia[34]

In Arlington County, Virginia the Transit-Oriented Development (TOD) corridor has implemented strategies to manage and reduce parking demand. In Clarendon City reduced minimum parking standards, shared parking provision and unbundled parking has been introduced.

Unbundled parking is available for $25 per month for one vehicle per unit, increasing to $75 per month for two vehicles per unit and $100 per month for three vehicles. It is estimated that parking facilities providing unbundled parking operate at less than 80% full, including at peak periods.

It should however be noted that current DLRCC Policy states that parking is to be assigned to residential units and that separate sale or letting of spaces is prohibited.

8.8 15-Minute Neighbourhoods

The 15-minute neighbourhood is an emerging urban planning concept which is based on a number of policy actions to provide residents access to most if not all of their needs within a short distance from their home by accessible modes. Urban areas are divided into smaller neighbourhoods, where each neighbourhood can independently cover its residents' need and provides a high accessible network and a strong connection to the neighbourhood's centre by using sustainable transport modes within 15 minutes from the residents' homes. The concept is based on four pillars including proximity, diversity, density and ubiquity.

The consideration of 15-minute neighbourhoods is usually closely linked with Low Traffic Neighbourhoods (LTNs) as both aim to reduce car use and encourage active travel. Neighbourhoods can be enhanced with provision of mobility hubs i.e. rapid electric vehicle charging points and bike hire.

The provision of safe walking and cycling infrastructure and access to public transport is key to the success of 15-minute neighbourhoods as without these fundamentals in place, residents will continue to use their car. Reductions on carbon emissions due to the lower car use is considered an additional outcome of the 15-minute neighbourhoods.

Cherrywood was recognized as a Strategic Development Zone since it was the largest undeveloped area of Dun Laoghaire-Rathdown, located between the M50 and N11 and 8km south of Dun Laoghaire town centre.

The recently adopted County Development Plan outlines in section 4.2.1 Sustainable Communities and Neighbourhood Infrastructure that 10-minute settlement concepts should be promoted i.e. that a range of facilities and services are accessible in a short walking and cycling timeframe from homes or are accessible by high quality public transport located within a short walk from home. The Cherrywood SDZ Planning Scheme proposes infrastructure to improve circulation and permeability within the area by prioritising walking and cycling.

The GDA Transport Strategy also considers the concept of 15-minute neighbourhoods and notes that whilst all services cannot be within 15 minutes of everyone, many daily requirements should be accessible within the local neighbourhood.

Therefore, the development and provision of an independent neighbourhood, able to cover residents' needs within a short distance from their homes, along with a strong connection to neighbourhood services accessible by sustainable modes can realistically be delivered within

[34] https://parkingpolicy.com/reduced-requirements/#_ftnref2

Cherrywood, further strengthening the commitment to the ambitious mode share targets for the SDZ.

8.9 Shared Mobility

Shared mobility is commonly defined as transportation services or resources which are shared amongst users, either simultaneously or one after another. The UK Department for Transport[35] includes the following types of transport as shared mobility:

- **Car clubs**. Short-term car rental including round-trips and 'flexible' one-way trips.
- **Ride-sharing**. Arrange to share a journey using an app or website to find people who plan to travel a similar journey, with one of the users driving.
- **Ride-pooling**. This is similar to ride-sharing, however neither of the users are driving and therefore a taxi-driver is present.
- **Car-pooling**. Usually arranged directly between individuals who know each other.
- **Demand Responsive Transport (DRT)**. Shared transport such as community buses which are requested for specific locations and times. This service is usually for those with limited mobility.
- **Shared Micromobility schemes**. Shared transport solutions for a short-term use, available to multiple users (bikes, e-bikes, e-scooters)

There are a number of benefits of shared mobility schemes, including:

- Provides a greater range of mobility services for users as well as users with impaired mobility
- Offers first and last mile transport solutions
- Reduces traffic congestion
- Mitigates against various forms of pollution
- Reduces costs for the user
- Improves efficiency
- Improves the users' health when using the shared micromobility schemes

However, there are barriers that may limit the uptake of shared mobility, and these include:

- **Safety** – concerns about sharing a vehicle with a stranger. The Covid-19 Pandemic also affected shared mobility, both positively and negatively. For example, some people partook in shared mobility such as bicycle hire to avoid other modes of shared mobility which includes close contact such as bus/trains. Whereas others refrained from using certain types of shared mobility such as carpooling or ridesharing, out of fear for their health or safety.
- **Desire to travel alone** – some people use their private time to unwind or prepare for a meeting on route to their destination, whilst others have concerns about having awkward conversations with strangers or being reliant on other users' timekeeping.
- **Lack of availability** – there may be a limited number of users in rural areas which often results in limited-service availability for all types of shared mobility; and
- **Awareness** – lack of awareness and knowledge of different forms of shared mobility and how the services work can discourage people from using them.

[35] UK Department for Transport, 2019. Shared Mobility Ipsos MORI report for the Department for Transport.

8.9.1 Ghent, Belgium[36]

In 2017, the city centre of Ghent became car-free as all traffic was banned with the exception of deliveries, city centre residents, taxis and public transport. Car club cars were installed at various hubs throughout the city and within good accessibility of all residents.

The shared mobility plan has had the following impact on traffic and people in the city:

- Car journeys have decreased from 55% to 27%
- Cycling has increased from 22% to 37% of all journeys
- Air pollution has reduced by 18%
- 20% reduction in car volumes in the city centre
- The number of car share users has increased from 6,000 in 2017 to 13,500 in 2019
- Reduction in road traffic accidents
- Increased public transport uptake

The scheme's success is due to its people-based approach, as 'ambassadors' work with residents, workplaces and developers to coordinate and encourage the use of shared transport schemes. Also, all proposed residential developments providing more than 10 units must provide an adjacent hub for electric vehicles and bikes.

As a result of the success of Ghent's shared mobility plan, it aims to further increase the number of car share users by 10% by 2024, reduce private car usage by 1% (this requires at least an extra 95 car club vehicles) and expand the network of shared bikes. The city is also aiming for 25,000 car sharing users by 2025- approximately 10%.

8.9.2 Shared micromobility

Shared micromobility refers to transport solutions for a short-term use, available to multiple users. Bikes, e-bike and e-scooters are the most common micromobility vehicles that are available either on specific stations or dockless within a specific area.

They provide an affordable, on-demand and environmentally friendly travel option, promoting multi-modal travel, operating in many cases as a first and last mile provider. Micromobility vehicles enable sustainable journeys to key destinations and provide an easier option for parking, compared to private vehicles.

Shared bikes and eBikes are considered to play a significant role in the provision of a sustainable transport network. Shared micromobility schemes could encourage new cyclists, while e-bikes could increase the trip length, therefore changing the traditional use of bikes.

The 2021 Annual Bike Share Report prepared by CoMoUK[37], showed that modal shift from private cars was one of the main outcomes from the provision of shared bikes, as presented in Figure 8.1.

[36] https://como.org.uk/wp-content/uploads/2021/01/CoMoUK_Mobility-Hubs_Ghent-Case-Study-A4.pdf
[37] *623082b095a4567ce1720e27_CoMoUK Bike Share Survey 2021.pdf (webflow.com)*

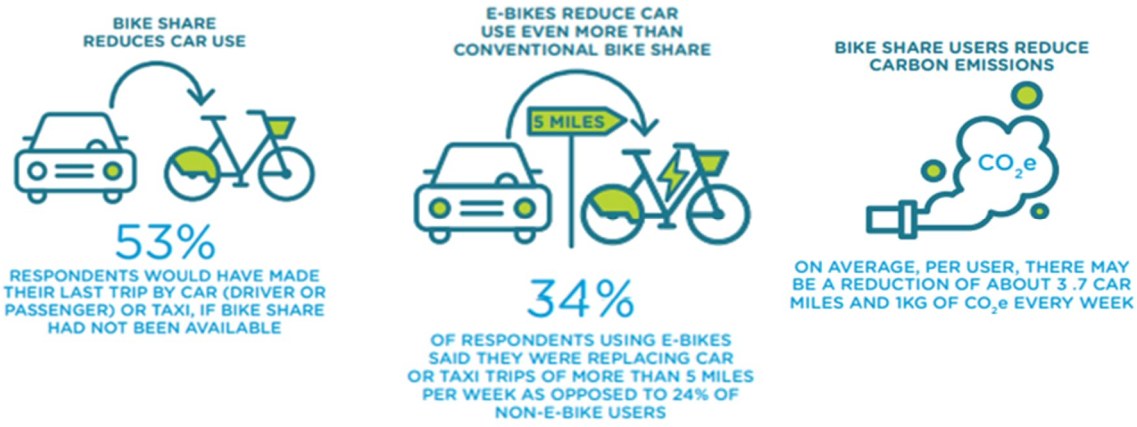


Figure 8.1: Potential bike share mode shift (Source: CoMoUK, 2021)

In addition, the popularity of shared e-scooters is increasing. Over the last few years, shared e-scooters launched in Europe and the market has evolved, providing an additional mode of transport along with bikes and e-bikes for public use.

In 2022 the UK Department for Transport published the National evaluation of eScooter trials Findings Report[38] presenting the outcomes of the e-scooter trials in the UK since 2020. The findings showed that 21% of users reported that they would have previously made the trip using private transport (car, van or taxi) if e-scooters had not been publicly available. The modal shift proportion from private cars to e-scooters increased as the study progressed.

The use of shared micromobility vehicles is expected to further evolve over the years and play an important role in commuting options. The support and enhancement of micromobility schemes will attract more users, encouraging a shift from the private car to active modes.

8.10 Parking Spaces within Buildings

8.10.1 Repurposing of Parking Spaces within Buildings

There is potential for parking spaces within buildings i.e. basement parking to be repurposed in the future if parking demand decreases. However, the repurposing of underground parking facilities can be difficult as they were not originally designed for human habitation.

For example, the conversion of basement car parks into residential spaces can pose difficulties due to the lack of natural light basements receive. Also, the high ceilings in basement parking facilities will reduce the number of residential units or office space that could be provided through the repurposing of the space[39]. The location of services, columns and ramps may also make it difficult to repurpose underground car parks[40]. Viable solutions on repurposing underground parking include use as a warehouse, data centre or logistics hub. Depending on the size of the parking, it could also have multiple uses.

Surface parking areas could be used as a multipurpose space for outdoors markets and retail shops, or parks, traffic education parks and play zones for children, or office and commercial buildings. The size of the parking spaces available for repurpose is also an important consideration in determining the optimal use of the space. However it is noted that surface parking for residential use is currently not offered in Cherrywood.

The sub-sections overleaf provide a set of examples of parking space repurposing.

[38] *https://www.gov.uk/government/publications/national-evaluation-of-e-scooter-trials-report*
[39] https://www.dreamit.com/journal/2018/1/31/developers-rethink-the-parking-garage-with-rise-of-autonomous-vehicles
[40] https://www.ptcconsultants.co/repurposing-future-proof-car-parks/

8.10.1.1 Northwestern University, Chicago[41]

Despite the challenges that may be faced when repurposing the parking areas within buildings, Northwestern University in Chicago has transformed a former underground car park into a café, conference space and entrepreneurial space for student-founded start-ups and projects.

8.10.1.2 Cincinnati Hotel[42]

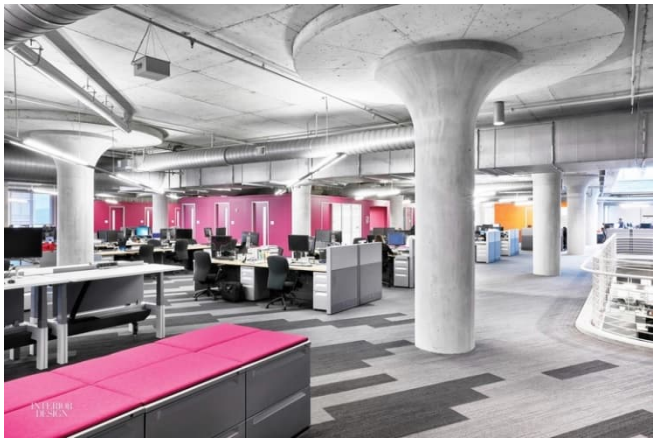
The Summit hotel in Cincinnati was converted from a parking garage into a hotel containing an art gallery, rooftop terrace, garden space, ballroom and conference centre, and opened in April 2017.

The structure was over 50 years old, and it cost $80 million in order to transfer the former car park into a hotel.

The hotel's atrium was created through cutting through the structure, with micro piles installed in the basement in order to support the building.

8.10.2 Future Proofing of Parking Spaces within Buildings

In order to facilitate the future proofing of parking spaces within buildings developers may need to consider building narrow columns which may better facilitate the conversion of a car park into office or residential space[43]. Also, removable steel ramps could be installed instead of traditional concrete ramps.



Furthermore, future proofing parking spaces within buildings can be expensive, as it is estimated to cost up to one third of the total construction cost, which can be an obstacle to developers when designing a site[44].

Other considerations are dependent on the proposed alternative use however may include light penetration for office development or, drainage and services for residential and / or retail use.

8.10.2.1 Los Angeles Office[45]

A residential development in Los Angeles will provide 475 units and 1,000 parking spaces. However, in order to facilitate the future repurposing of the site, the car park will be designed without sloped floors so as to facilitate its conversion to other uses, including office space, if demand for parking decreases in the future.

[41] https://thegarage.northwestern.edu/about/
[42] https://www.bdcnetwork.com/work-park-live-inside-cincinnatis-parking-garage-turned-lifestyle-hotel
[43] https://www.dreamit.com/journal/2018/1/31/developers-rethink-the-parking-garage-with-rise-of-autonomous-vehicles
[44] https://www.ptcconsultants.co/repurposing-future-proof-car-parks/
[45] https://www.ptcconsultants.co/repurposing-future-proof-car-parks/

8.10.2.2 Cincinnati Office [46]

In Cincinnati a new office block was designed with three floors of parking above ground level.

In order to accommodate the potential future repurposing of the car park it was designed with high ceilings and a façade to match the rest of the office development.

[46] https://www.dreamit.com/journal/2018/1/31/developers-rethink-the-parking-garage-with-rise-of-autonomous-vehicles

9. Recommendations

9.1 Introduction

AECOM were commissioned by DLRCC to provide technical advice relating to parking within the Cherrywood SDZ. Development is ongoing at Cherrywood and the level of required parking provision is a key consideration as development continues, particularly to align to the recently adopted County Development Plan 2022 - 2028.

9.2 Consideration of Rationale

The information presented within this report has been collated into eight over-arching categories including:

- Policy Context
- County Development Plan Review
- Best Practice Review
- Planning Decisions
- Car Ownership 2016
- Travel Trends 2021
- Covid Research
- Cost of Living Crisis

Each category has been assigned a score in order to assess to what extent each category either supports or does not support a reduction in residential parking standards as shown in Table 9.1.

The scoring system suggests:

- Strong rationale for a reduction in residential parking standards based on policy context, a review of comparable County Development Plans and recent planning decisions.
- Mixed rationale for a reduction in residential parking standards based on the best practice review, car ownership data, review of 2021 Travel Trends and research into the cost-of-living crisis and Covid-19 pandemic.

Table 9.1 - Rationale Summary

<table>
<tr><th>Aspects</th><th>Supportive of Further Reduction</th><th>Not Supportive of Further Reduction</th><th>Consideration</th><th>Score</th></tr>
<tr><td>Policy Context
Project Ireland 2040
RSES - EMR
Government of Ireland Climate Action Plan 2021
DLRCC Climate Change Action Plan
NTA GDA Transport Strategy 2022-2042
Smarter Travel - A Sustainable Transport future: A New Transport Policy for Ireland 2009-2020
National Sustainable Mobility Policy</td><td>National, regional and local policy includes a number of policy objectives relating to car parking and prioritising sustainable transport choices including: NPO 13, NPO 27, NPO 33 and RPO 5.3.

The over-arching Government Climate Action Plan sets out a roadmap to halve emissions by 2030 and reach net zero no later than 2050. Core measures include a shift to transport modes with lower consumptions i.e. walking, cycling, active and public transport including enabling a modal shift to reduce the overall fossil fuelled distance undertaken by car by 10%.

The NTA GDA Strategy sets out measures and priorities required to provide a sustainable, accessible and effective transport system for the GDA in order to meet climate change requirements and serve the needs of communities. Demand management and encouraging travel by sustainable modes is at the centre of the strategy. The Strategy outlines that car parking influences car ownership, mode choice. Development densities, car-based congestion and achievement of an increase in public transport with additional measures directly relating to residential parking standards. The lowest level of provision should be sought for areas with high levels of accessibility.

The Smarter Travel policy includes a number of targets that rely on key actions such as a reduction in distance travelled by private car and encourages smarter and more sustainable travel and ensuring that alternatives to the car are more widely available.

The National Sustainable Mobility Plan outlines two high level goals relating to better integrated mobility including Goal 9. Better integrate land use and transport planning at all levels and Goal 10. Promote smart and integrated mobility through innovative technologies and development of appropriate regulation.</td><td>Policy also states that provision of sustainable transport should not compromise people's safety or the built environment i.e. NPO 13.</td><td>On balance national, regional and local policy justifies a further reduction in residential car parking standards, however this must be underpinned by additional sustainable infrastructure in order to provide realistic options for residents.

Overarching policy sets the scene that decreasing private car use and increasing sustainable mode share is vital in order to achieve net zero climate targets.

The GDA Transport Strategy directly links the need for demand management and residential car parking standards.

The Strategy outlines that the lowest level of provision should be set in areas with high sustainable mode accessibility, take into account the availability of amenities i.e. 15-minute neighbourhoods, reflect options open to new development areas and design sustainably and to recognise the difference in central and less central areas i.e. trip distance.

All of which can be directly associated with Cherrywood SDZ.</td><td>✓✓</td></tr>
<tr><td>County Development Plan Review
DLRCC CDP 2022-2028
Dublin City Development Plan 2022-2028
Fingal CDP 2023-2029
South Dublin CDP 2022-2028
Sandyford Urban Framework Plan (requested by DLRCC to include)</td><td><table><tr><th></th><th>1 bed apartment</th><th>1 bed</th><th>2 bed</th><th>3+bed</th><th>Dwelling</th></tr><tr><td>DLRCC CDP 2022-2048</td><td>1</td><td>1</td><td>1</td><td>2</td><td>-</td></tr><tr><td>Dublin City Development Plan 2022-2028</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td></tr><tr><td>Fingal CDP 2023-2029</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1</td><td>-</td></tr><tr><td>South Dublin CDP 2022-2028</td><td>0.75</td><td>1</td><td>1.25</td><td>1.25/1.5</td><td>-</td></tr><tr><td>Sandyford UFP</td><td>-</td><td>0.6</td><td>0.8</td><td>1</td><td>-</td></tr><tr><td>Cherrywood SDZ</td><td>0.9</td><td>0.9</td><td>1.2</td><td>1.4/2.0</td><td>-</td></tr></table>
Cherrywood SDZ standards higher than Fingal, South Dublin and Sandyford for 1 bed apartment/unit.
Cherrywood SDZ standards higher than Fingal and Sandyford for 1 bed house.</td><td>Dublin CDP 2022 – 2028 notes car ownership is high and that whilst residents may choose to travel to work or school by sustainable modes, they still need car parking / storage for their car.

It also highlights a key distinction between residential parking and destination parking and that there is less value in adopting more restrictive residential parking standards for the purposes of encouraging sustainable travel.

Cherrywood SDZ standards are lower than DLRCC and Dublin City standards for 1 bed units.</td><td>On balance from review of other County Development Plans, rationale exists to reduce parking standards relating to all housing typologies which are generally higher in comparison to most of the others.

It is envisaged that 2-bed units within Cherrywood will be either apartments or duplexes and as such rationale exists to align standards similar to those in Sandyford and Fingal (it is noted that all units within Sandyford are apartments).

Fingal standards are significantly lower in comparison, but it is not considered that the locality is directly comparable to Cherrywood SDZ.</td><td>✓✓</td></tr>
</table>

<table>
<tr><th>Aspects</th><th>Supportive of Further Reduction</th><th>Not Supportive of Further Reduction</th><th>Consideration</th><th>Score</th></tr>
<tr><td>

- **Cherrywood SDZ Planning Scheme**

</td><td>

- Cherrywood SDZ standards higher than Fingal, DLRCC, Dublin City and Sandyford for 2 bed houses.
- Cherrywood SDZ standards higher than all others considered for 3 bed unit/house.

All of the CDPs allow flexibility criteria to reduce the max standards. At present Sandyford and Cherrywood do not provide flexibility.

The GDA Strategy proposes maximum car parking standards for a variety of locations. Cherrywood is considered as a location between the Metropolitan boundary and the M50 therefore a maximum of 1.5 spaces per unit is proposed.

<table>
<tr><th>Location</th><th>Maximum Parking Provision *</th></tr>
<tr><td>Central Dublin (Inside Canals and including Docklands)</td><td>Zero to 0.5 spaces per unit</td></tr>
<tr><td>Locations Between the M50 and Canals</td><td>Zero to 1.5 space per unit</td></tr>
<tr><td>Locations Between the Metropolitan Boundary and the M50</td><td>Up to 1.5 space per unit</td></tr>
<tr><td>Hinterland Towns</td><td>Up to 2 spaces per unit / subject to assessment through Local Transport Plan</td></tr>
<tr><td>Small Settlements</td><td>Subject to local assessment</td></tr>
</table>

</td><td>Each CDP uses different criteria for determination of Zones under which the standards are applicable therefore comparison of standards is not directly like-for-like i.e. Fingal Zone 1 within 800m of BusConnects &1600m of public transport and South Dublin Zone 2 within 400m of public transport.</td><td>**Recent published plans for the City Edge project (Dublin City Council and South Dublin County Council) detail a zero-parking standard for the development as a whole, with the exception of parking for those with mobility issues. This therefore provides rationale for a further reduction in parking standards to align with the direction of the wider Council area.**

Cherrywood Planning Scheme sets out ambitious mode share targets i.e. 39% of trips by private car and therefore parking management must be utilised as a key tool to achieve set targets.

The GDA Strategy also presents a strong rationale for a larger unit reduction i.e. revision of maximum standard to 1.5 spaces per 3-bed unit</td><td></td></tr>
<tr><td>

Best Practice Review

- **European Examples**
- **Other RoI and UK Examples**
- **Other SDZ's**

</td><td>Darmstadt, Lincoln, Frankfurt - **0.65 space per flat**

Freiburg, Dietenbach, Germany - **0.5 - 0.7 spaces per unit**

City of Mainz, Germany - **10/30% reduction in standards based on public transport accessibility criteria**</td><td>Current Cherrywood standards are lower than other RoI & UK examples considered.

Current Cherrywood standards are generally lower than other SDZ's including Adamstown, Grangegorman and Hansfield.

European examples propose parking exclusively in parking garages within the development boundary with no in-curtilage parking provided.

Furthermore Darmstadt parking is unbundled which is currently not consistent with the DLR CDP.</td><td>**On balance, the review of best practice provides mixed rationale for a further reduction as provision less than 1 space is unallocated and provided in parking garages at a cost to residents.**

However, the recently adopted DLR CDP outlines that the Council is open to innovative parking solutions for residential development i.e. multi-storey car parks / peripheral locations with attractive linkages.

It is considered that the City of Mainz public transport bonus could be used to develop some flexibility criteria for consideration on a case-by-case basis.</td><td>×/✓</td></tr>
<tr><td>

Planning Decisions

Recent decisions following adoption of DLRCC CDP

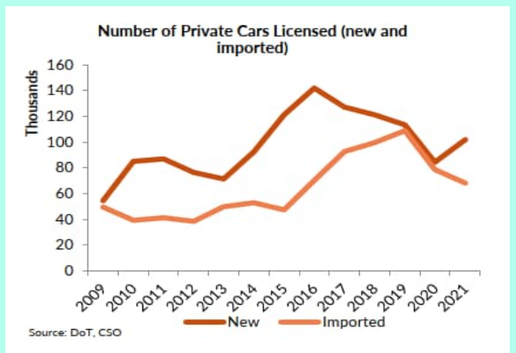
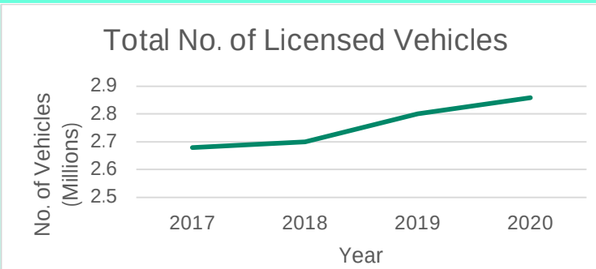
ABP Decisions

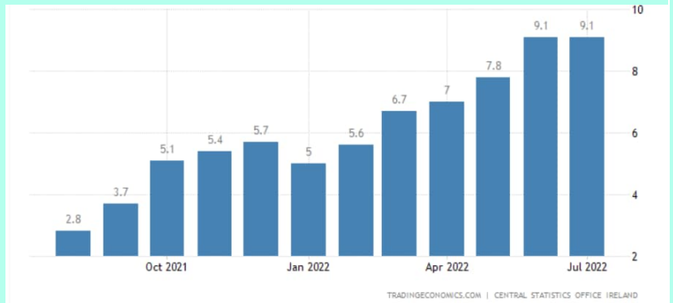
(Based on lists provided by DLRCC)

</td><td>Analysis of 14 applications as provided by DLRCC showed that ABP approved rates are around 36% (weighted average) lower than those recommended by DLRCC i.e. 0.54 vs 0.85 for one bed apartments.</td><td>The analysed applications are across the county and not Cherrywood specific. DLRCC CDP currently outlines flexibility criteria and as such ABP have approved lower parking ratios on this basis.

Recent car parking ratios associated with residential developments granted since June 2022 i.e. since the enactment of both the LRD and DLRCC CDP are</td><td>**On balance a review of ABP approved lower parking ratios strengthens the rationale for a reduction in parking standards, particularly for one bed apartments.**

It also provides rationale for consideration of flexibility in relation to parking standards.</td><td>✓✓</td></tr>
</table>

Aspects	Supportive of Further Reduction	Not Supportive of Further Reduction	Consideration	Score
		largely in keeping with the CDP standards i.e. 6 out of 7 reviewed applications.		
Car Ownership (2016 data) 2022 car ownership currently not available from CSO	Historical data shows that both DLRCC and Cherrywood experienced a marginal decline in the average number of cars per household. DLRCC - Average number of cars per household decreased from 1.40 in 2011 to 1.37 in 2016. Cherrywood – Average number of cars per household decreased from 1.35 in 2011 to 1.32 in 2016. Significant shift in policy following net zero commitments and the focus on sustainability and behavioural change. As outlined in the GDA Transport Strategy, sustainable infrastructure and demand management are central to the future transport system providing quality of travel for all, of which reduced parking standards plays a role.	In Cherrywood the total number of cars remained consistent between 2011 and 2016. The number of households with one car increased by 2.2% p.a. between 2011 and 2016 whilst the number of no car households decreased by 3.9% per annum between the same period. The average number of cars per adult increased in Cherrywood from 0.63 cars in 2011 to 0.67 in 2016. Data based on historical analysis of car ownership only and does not account for the significant policy and societal changes that have occurred since.	**Analysis of historical car ownership provides mixed rationale for a further reduction in parking standards when considered with current overarching policy.** **Publication of 2022 data may provide further rationale; however this is unavailable at present.**	×/✓
Travel Trends 2021 (Department of Transport Strategic Research and Analysis Division – April 2022)	Analysis of the latest Eurostat data (2019) indicates that the level of private car ownership is lower in Ireland than in other European states. The estimated level of 454 passenger cars per 1,000 inhabitants in Ireland ranks below the median figure for the 27 EU member states for which data is available (511 cars per 1000). The 2019 Eurostat data shows that Ireland's level of private car ownership is the 7th lowest of countries for which data is available (27), but this metric increased by 9 cars per 1,000 inhabitants since 2018.	The total number of licensed vehicles in Ireland increased by over 55,000 to 2.86m in 2020, of which over 2.22m are private cars. The number of new vehicles licensed has bounced back in 2021 to 142,376, a 22.2% increase from 2020.  A total of 101,853 new private cars were licensed, representing 71.5% of new vehicles licensed in 2021. Tax receipts for private cars have fallen, however the uptake in EVs has significantly increased and as such the drop in tax receipts may be a function of private car users choosing greener options.	 **Review of published travel trends in Ireland provides mixed rationale for a further reduction in parking standards. Private car ownership is lower in Ireland when compared to a number of other European states, however the total number of licensed vehicles is increasing and has been systematically doing so since 2017.**	×/✓

Aspects	Supportive of Further Reduction	Not Supportive of Further Reduction	Consideration	Score
Covid Research **Centre Research into Energy Demand Solutions (CREDS) – Less is More: Changing Travel in a Post-pandemic Society** **Ernst and Young (EY) Global Limited Mobility Consumer Index Study**	A CREDS survey showed that, in response to the pandemic, 14%, or 3 out of 20 households with 2 cars reduced down to one car. Despite the levels of uncertainty, over-arching policies are responding to the need to work towards net zero commitments underpinned by the change in attitudes to active travel and sustainable modes as shown during lockdowns and the pandemic. The NTA has also developed an alternative future demand scenario which takes account of likely potential travel pattern changes. The Alternative Future Demand Scenario has adjusted downwards the likely demand for future travel to account for potential increases in working from home, remote learning and online shopping. It is considered that this approach fully accounts for the potential long-term impacts of the Covid-19 pandemic in line with the best information currently available.	The CREDS survey also showed that 10% of households that did not have a car got access to one or more during the pandemic. The EY Mobility Consumer Index Study details another survey conducted across nine countries by the end of 2020, found that a third of people with no car intended to buy one in the next six months as an alternative way of commute due to the pandemic. General themes of the CREDS research showed that public transport was hardest hit by the pandemic in comparison to the private car – by February 2022, bus usage had only recovered to around 75% of pre-pandemic levels and rail to 66% (DfT).	**A review of available research is based on car usage and ownership due to unavailability of research on the impact of covid on parking.** **Changes to travel patterns arising from the pandemic along with the cost-of-living crisis may have both positive and negative impacts on the requirement for parking.** **Uncertainty exists on whether the impacts of the pandemic will lead to long term change and as such it is considered that the current research when considered with the current direction of overarching policy that a mixed rationale exists for a reduction in parking standards at this time.**	**×/✓**
Cost of Living Crisis	A number of economic issues have arisen in 2022. The increase in the cost of energy (~22%) and in fuel (~40%) since 2021 in Ireland, as a result of the war in Ukraine and other pressures, are leading to significant pressures on household budgets, living standards and also on business costs and economics. Impacts on travel patterns as a result of these pressures are not yet clear but are likely to be significant. The annual inflation rate in Ireland remained at 9.1 percent in July of 2022, the highest level in 38 years. Costs rose at a slower rate for housing and utilities (21.6% vs 22.5% in June) and transportation (19.4% vs 20.4% in June).  Source CSO, Ireland Motor industry publications showed that over one third of drivers have cut down on car journeys since the beginning of the year. Drivers are looking to reduce car use or replace with EVs as a way of coping with the increased prices on fuel. Similar publications showed that a shortage of new vehicles for sale also added to the crisis and contributed to the reduction of car ownership and the increase of cars prices in the past 2 years.	There is a high level of uncertainty on how the cost-of-living crisis will impact car ownership and parking requirements long term. Whilst some drivers may use their cars less, unless they sell their vehicles, they will still require areas to park in.	**The cost-of-living crisis provides a mixed rationale for a further reduction in parking standards due to the current levels of uncertainty in public response.** **Car usage may decrease in order to save on fuel costs; however this doesn't not necessarily translate into a decrease in car ownership.** **Even if drivers are aiming to reduce or replace vehicles, parking will still be required.**	**×/✓**

9.3 Recommendations

The summary of rationale for reduced parking provision as outlined in Table 9.1, results in varying degrees of conflict when considered across each key theme of this report; as shown by the mixed scoring and particularly with the high level of uncertainty surrounding car ownership and long-term change as a result of the pandemic and cost of living crisis.

Despite this, on balance and to align with the strong themes and measures outlined in over-arching regional policy, recent planning decisions and other DLRCC policy, it is considered that a reasonable rationale exists for a reduction in parking standards across all housing typologies.

The revised standards are considered as maximum standards, with no further reduction permitted in order to appropriately monitor and manage impacts of the revised parking standards in tandem with delivery of sustainable infrastructure and public transport services.

A reduction in parking standards within Cherrywood will result in reduced car demand aligning with the mode share targets for the SDZ, which in turn will improve operation of the adjacent road network, facilitating improved cycling and bus progression through the local network.

It is considered that a reduction in parking standards within the Cherrywood SDZ will not affect any of the commitments from either the NTA or TII such as incremental increases in public transport services and demand management on strategic roads etc (fully outlined in Chapter 3). It is important to stress that only parking allocation would reduce, which does not affect the development density overall.

The proposed revised standards are summarised and outlined in Table 9.2 (see page 109).

- **Studio units (applicable in Town Centre, Village Centres and Res 1)** – the current policy allows a lower standard in the range of 50-70% of the rate applied to 1-bed units. This policy is to be retained and therefore will be applicable to the 0.5 spaces per 1-bed unit, resulting in a parking standard range between 0.15 and 0.25 spaces per unit. Studio spaces to be unallocated and subject to a usage charge.
- **Town Centre** – currently 0.9 spaces per unit, revised standard of 0.5 unallocated spaces per unit which will be subject to a usage charge.
- **Village Centres** – currently 0.9 spaces per unit, revised standard of 0.5 unallocated spaces per unit which will be subject to a usage charge.
- **RES 1, 2, 3 & 4**
    - **1 bed units** – currently 0.9 spaces per unit, revised standard of 0.5 unallocated spaces per unit and 0.25 unallocated spaces per studio which will be subject to a usage charge.
    - **2 bed units** – currently 1.2 spaces per unit, revised standard of 0.75 unallocated spaces per unit which will be subject to a usage charge.
    - **2 bed houses** – currently 1.2 spaces per house, revised standard of 1.0 allocated i.e. in-curtilage space per house.
    - **3+ bed units** – Currently 1.4/2.0 spaces per unit / house respectively, revised standards of 1.25/1.5 spaces per unit/house respectively
- **Shared parking spaces** – currently 0.01 spaces per unit, proposed to increase to 0.02 spaces per unit as a minimum requirement.

In light of the revised maximum standards, it is also considered that it will be essential for developers to commit to supporting sustainable travel demand within the Planning Scheme; therefore enabling realistic options for residents in light of the reduced parking standards:

On this basis, all planning applications for new floorspace development must comprehensively address how the proposed development maximises the potential for travel by sustainable, active or public transport modes having regard to each of the following criteria:

- Proximity to public transport services and level of service and interchange available.
- Walking and cycling accessibility/permeability and any improvement to same.
- The need to safeguard investment in sustainable transport and encourage a modal shift.
- Provision of EV facilities and provision of car sharing and bike / e-bike sharing facilities.
- Existing availability of parking and its potential for dual use.
- Particular nature, scale and characteristics of the proposed development.
- The range of services available within the area.
- Impact on traffic safety and the amenities of the area.
- Capacity of the surrounding road network.
- Urban design, regeneration and civic benefits including street vibrancy.
- Robustness of Mobility Management Plan to support the development.
- The availability of on-street parking controls in the immediate vicinity.
- Any specified sustainability measures being implemented including but not limited to: the provision of bespoke public transport services; the provision of bespoke mobility interventions

There are a number of additional considerations relating to the proposed revisions to residential parking standards including:

Studio Apartment Parking Standard

It is generally considered that average demand for car parking per studio is likely to be lower than the equivalent demand per 1 bedroom apartment. This is based on the likely socio-economic characteristics of occupants such as marital status, age etc.

Currently parking rates for studios within Cherrywood are reduced to between 50 and 70% of the current rate; determined on a case-by-case basis (as outlined on Page 46 of Chapter 4 of the Cherrywood Planning Scheme.

This level of reduction for studio apartments will be retained and applied on a case-by-case basis as it is currently; this results in a range between 0.15 and 0.25 spaces per studio unit.

Management of Unallocated and Visitor Parking

Developers will have sole responsibility for appointing a management company to manage and enforce areas of unallocated parking designated for visitor use or intended for residents of 1 and 2-bed units with the reduced parking standard of 0.5/0.75 units per space respectively.

Plans for management and enforcement must be clearly outlined in full within submitted planning applications to ensure that the surrounding public realm is not affected by nuisance parking.

Parking Space Re-purposing

There are a number of considerations relating to re-purposing of parking spaces dependent on whether the spaces are basement or surface parking.

- Basement parking should still be provided by developers, with a view of repurposing after a review of how the spaces are being utilised by residents.
- Surface parking by nature requires a larger land footprint and is an inefficient use of space as parking. Therefore it is considered that parking should only be provided within the building footprint, with it then potentially being re-purposed in the future.

The proposed amendment should reflect the vision for the SDZ and outline that surface car parking should be minimised in order to maximise public realm.

Developers must clearly outline the potential usage for re-purposed parking to avoid provision of spaces which are not utilised based on evidence, with consideration given to active travel solutions / infrastructure.

Further Reduction to Proposed Maximum Standards on the basis of Exceptional Circumstances

It is considered that the proposed maximum standards should be sought by developers. However, it is accepted that exceptional circumstances may arise where the developer and also DLRCC consider that there is a specific requirement for a lower number of spaces.

An example of this would be in instances where there are demonstrable benefits for the SDZ or wider strategic initiatives such as provision of large-scale mobility hubs, neighbourhood parking facilities etc.

Applications that are advocated as being under exceptional circumstances will be considered and will also be subject to the requirements of the Cherrywood Planning Scheme including consultation with the NTA and TII as outlined in Chapter 7 of the Planning Scheme if considered as strategically important.

As such this may require collective delivery between numerous stakeholders including the NTA and TII, and as such will be subject to consultation with stakeholders in order to determine potential locations, programme, management responsibility and cost implications.

Retrospective Planning

It is considered that developers may apply for retrospective planning on the basis of the now available reduced parking rate for studio, 1 or 2-bed units. This will mean submission of revised layouts considering the amended car parking policy.

Future Further Reductions

As Cherrywood develops further, car parking standards will systematically be reviewed in order to align with ongoing monitoring undertaken by the NTA and TII. As future sustainable infrastructure and public transport provision is delivered in both Cherrywood SDZ and surrounding areas, DLRCC may consider further reductions to align with overarching policy.

Flexibility Criteria

It is acknowledged that the CDPs reviewed as part of this study outline flexibility criteria for further reductions in parking standards, applicable on a case-by-case basis which is not currently available in Cherrywood.

It is recommended that further flexibility is not permitted at this time except in exceptional circumstances as outlined above, in order to monitor and manage impacts of the revised parking standards in tandem with delivery of sustainable infrastructure and public transport services.

BTR / BTS Unit Standards

BTR units were historically typically delivered with minimal or greatly reduced parking provision in order to reflect their city centre location. BTR units should be treated with caution in light of the associated 10- year covenant which results in the potential for the units to become BTS. Research has shown that BTS units which lack appropriate parking provision can lead to units being deemed undesirable by prospective buyers; furthermore the lack of parking may create displaced parking issues within town centre locations.

Guidance in relation to BTR is outlined in the Sustainable Urban Housing: Design Standards for New Apartments published by the Department of Housing, Planning and Local Government. The guidelines were updated in December 2022 following a period of ongoing monitoring in relation to the BTR sector.

The monitoring process determined that a sufficient quantum of BTR housing was either permitted or subject to consideration within the planning system. As such, SPPR 7 was revised to stated that planning permission would no longer be granted for BTR units unless a specific demand requirement was identified following a Housing Need and Demand Assessment (HNDA) process.

.Park & Ride

As the development of Cherrywood SDZ continues, public transport linkages will be improved in order to align with the SDZ's sustainable mode share targets. Proposed public transport enhancements such MetroLink South and the Luas Green Line extension will encourage public transport use as a wider area becomes accessible to Cherrywood residents. The planning scheme proposes a town centre Park & Ride located in basement level parking in TC4 however it is considered that residents should be encouraged to access city centre public transport services via active modes and therefore it is recommended that consideration is given to a shared mobility facility in this location as an alternative to a dedicated Park & Ride.

Careful consideration should also be given to any proposed Park & Ride facilities in the surrounding areas to Cherrywood, these facilities should be provided / designed so as not to encourage Cherrywood residents to park their own vehicles overnight.

SMART Parking

Whilst a number of potential SMART parking solutions have been identified in Section 8.4 of this report, it is recommended that proposals from applicants are assessed on their merits for consistency with the Cherrywood Planning Scheme, and that further solutions are determined from the proposed FPl URDF SMART Parking Strategy which will consider alternative parking measures in detail, including terms of implementation and consistency with the Cherrywood Planning Scheme.

Furthermore, it is recommended that the FPl Smart Parking Strategy considers how the proposed conditions for the revised parking standards relaxation complement any proposed SMART solutions.

Table 9.2 - Proposed Residential Parking Standards

Development Type	Original Cherrywood Parking Standards	Current Cherrywood Parking Standards	Proposed Maximum Parking Standards	Conditions	Rationale
Town Centre	1 space per unit	0.9 spaces per unit	**0.5 spaces per unit**	Unallocated and charged	There is a precedent with ABP having approved one bed parking ratios at this level. Evidently 0.5 of a space cannot be allocated to a unit. Also requires a usage charge in order to further dissuade car ownership and ensure correct usage of adjacent allocated spaces for larger units.
Village Centres	1 space per unit	0.9 spaces per unit	**0.5 spaces per unit**	Unallocated and charged	
Res 1, 2, 3 &4	1 space per 1 bed unit	0.9 spaces per 1 bed unit	**0.5 spaces per 1 bed unit**	Unallocated and charged	
	1.25 / 1.5 spaces per 2 bed unit	1.2 spaces per 2 bed unit	**0.75 space per 2 bed unit**	Unallocated and charged	All 2-bed units within Cherrywood will either be apartments or duplexes. Evidently 0.75 of a space cannot be allocated to a unit. Also requires a usage charge in order to further dissuade car ownership and ensure correct usage of adjacent allocated spaces for >2 bed units.
	1.25 / 1.5 spaces per 2 bed unit	1.2 spaces per 2 bed house	**1.0 space per 2 bed house**[47]	Allocated space, no usage charge	Considered that housing types indicate a family household and therefore require allocated, in-curtilage spaces.
	1.5 / 2.0 spaces per 3 or more bed unit	1.4 spaces per 3 or more bed unit	**1.25 spaces per 3 or more bed unit**	Allocated space, no usage charge	Considered that larger housing types indicate a family household and therefore require allocated spaces. CDP review showed that current Cherrywood standard is high and GDA Strategy advises that a maximum of 1.5 spaces per unit is reasonable based on Cherrywood's locality.
	-	2.0 spaces per house with 3+ beds	**1.5 spaces per house with 3+ beds**	Allocated space, no usage charge	
Studio Units	-	50-70% reduction in 1-bed unit rate	50-70% reduction in 1-bed unit rate **Maximum rate of 0.25 spaces per studio with further flexibility up to a 70% reduction (0.15 spaces per studio)**	Unallocated and charged	Current reduction for studio units retained on the basis that provision is made for car sharing facilities and operators under a strong central management regime.
Shared Car Spaces	-	Minimum of 0.01 spaces per unit	**Minimum of 0.02 spaces per unit**	Minimum standard	Minimum requirement

[47] Previously the 2 bed rate was the same for units and houses. This has now been split out in the Proposed Standards to differentiate between typologies.

9.3.1 Impact of Revised Standards

The impact of the revised standards outlined for all housing typologies has been considered for the SDZ as a whole in terms of spaces required and potential additional public transport trips as result of reduced available parking.

It is noted that following the update of the Sustainable Urban Housing: Design Standards for New Apartments in December 2022, that planning authorities are advised to comply with the current CDP and determine density ranges based on a housing needs assessment. DLRCC reviewed the relevant guidance and determined that the proposed development density ranges as outlined within the planning scheme should remain unchanged.

Chapter 2 of the Planning Scheme outlines the nature, type and extent of development that will be permitted within the area and establishes a framework for Cherrywood's built form. Table 2.9 within the document outlines the residential development density ranges and development yield as summarised in Table 9.3 below.

Table 9.3 - Cherrywood Planning Scheme Residential Development Density Ranges and Development Yield

Density type	Land Area HA	% Split	Min Density Range	Max Density Range	Min Units	Max Units
Res 1	3.9	5%	35		137	195
Res 2	44.5	58.5%	45		2,003	3,115
Res 3	21.8	28.5%	65		1,417	2,180
Res 4	5.9	8%	85		502	738
Mixed Use Areas	n/a	n/a	n/a	n/a	Circa. 1,596	Circa 2,050
Developed to date (2014)	n/a	n/a	n/a	n/a	600	600
Totals	76	100%			Circa 6,255	Circa 8,878

Density ranges are also outlined across three objectives in order to provide for different housing typologies i.e. PD2, PD3 and PD4 as summarised below

- PD2 - Res1 plots have been identified for a number of reasons including topography and/or proximity to sensitive sites. Such sites shall accommodate residential development made up predominantly of houses, which have their own private gardens and no less than 2 bedrooms.
- PD 3 In Res2 plots the typology shall be predominantly own door units except for areas that require higher density (those fronting the Grand Parade, Castle Street and overlooking open space).
- PD 4 Where apartment development is proposed as part of mixed-use development in the Town Centre and the three Village Centres, the mix of apartment unit types should be in accordance with the following unit mix - 10% - Studio Units (as part of a build to let development), 20% - 1 Bed Units , 55% - 2 Bed Units and 15% - 3 Bed Units.

The apartment unit mix as noted above shall allow for a range of variation to include for 20% - 30% for 1 bed units (with the reallocation of the 10% studio units), 50% - 65% for 2 bed units and 15% - 20% for 3 bed units.

In Res3 and Res4 plots the mix of apartment unit types should be in accordance with the following unit mix:

- not more than 20% of units shall be 1 bed units,
- a range of min. 40% – max. 60% shall be 2-bed units, and
- a range of min. 20% - max. 40% shall be of a size to comprise of 3 or more bed units.

Based on the above, a number of assumptions have been derived in order to determine the potential impact of the proposed parking reduction applicable to studios, 1& 2bed units and shared spaces including:

- Res 1 – Assumed as 50% 2-bed and 50% 3/3+ bed
- Res 2 – Assumed as 10% studio, 30% 1-bed, 30% 2-bed and 30% 3/3+ bed based on analysis of granted residential applications in Res 2
- Res 3 & 4 – Assumed as 20% 1-bed, 40% 2-bed and 40% 3/3+bed as outlined in Chapter 2 of the Planning Scheme
- Mixed Use – Assumed as 10% studio, 20% 1-bed, 55% 2-bed and 15% 3/3+bed as outlined in Chapter 2 of the Planning Scheme

Considering both minimum and maximum unit delivery scenarios as outlined in Chapter 2 of the Planning Scheme coupled with the aforementioned assumptions, Table 9.4 shows the considered density ranges by housing type for the SDZ as a whole.

Table 9.4 – Cherrywood SDZ Density Range by Housing Type

Housing Type	Minimum Density	Maximum Density
Studio	360	517
1 bed	1104	1928
2 bed	2315	3327
3 / 3+ bed	1877	2507
Total	**5655**	**8278**

Figure 9.1 overleaf shows the total number of parking spaces required for the SDZ as a whole, based on existing and revised parking rates in both the minimum and maximum density scenarios.

The revised parking rates for all housing typologies and shared parking results include:

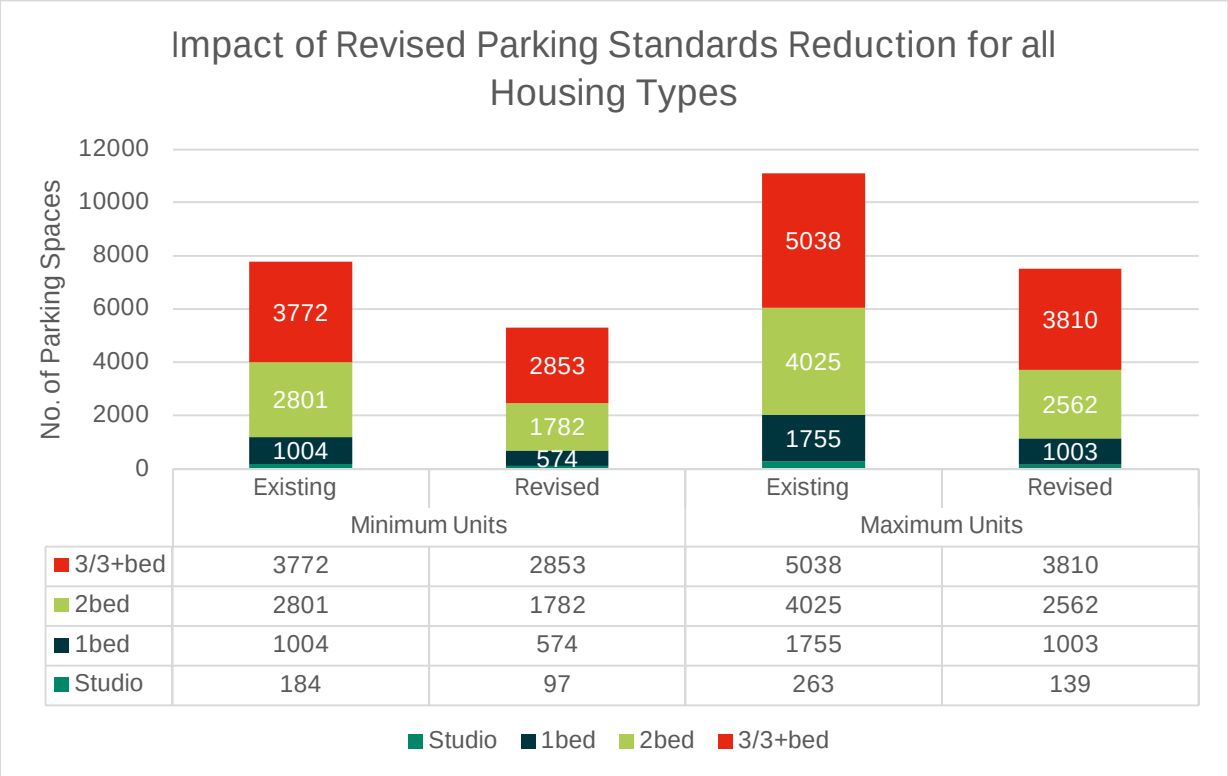
- Studio[48] – maximum 0.25 spaces per unit
- 1-bed unit – maximum 0.5 spaces per unit
- 2-bed unit – maximum 0.75 spaces per unit[49]
- 3-bed house[50] – maximum 1.5 spaces per unit

Assuming the proposed maximum standards outlined above results in a 32% reduction in spaces required in both the minimum and maximum unit scenarios. This equates to a reduction range of between ~2500 spaces and ~3600 spaces dependent on the minimum/maximum units delivered.

Translating this into potential additional public transport trips on the assumption of single occupancy for studios, 1.2 occupancy for 1 and 2-bed units and 1.4 occupancy for 3-bed units/houses the revised parking rates could yield in the range of 3,100 and 4,500 additional public transport trips.

It should be noted that consultations with the NTA confirmed that there are no anticipated issues with network capacity and as such this increased demand can and will be accommodated.

Figure 9.1 - Impact of Revised Parking Standards – Cherrywood SDZ



	Minimum Units		Maximum Units	
	Existing	Revised	Existing	Revised
3/3+bed	3772	2853	5038	3810
2bed	2801	1782	4025	2562
1bed	1004	574	1755	1003
Studio	184	97	263	139

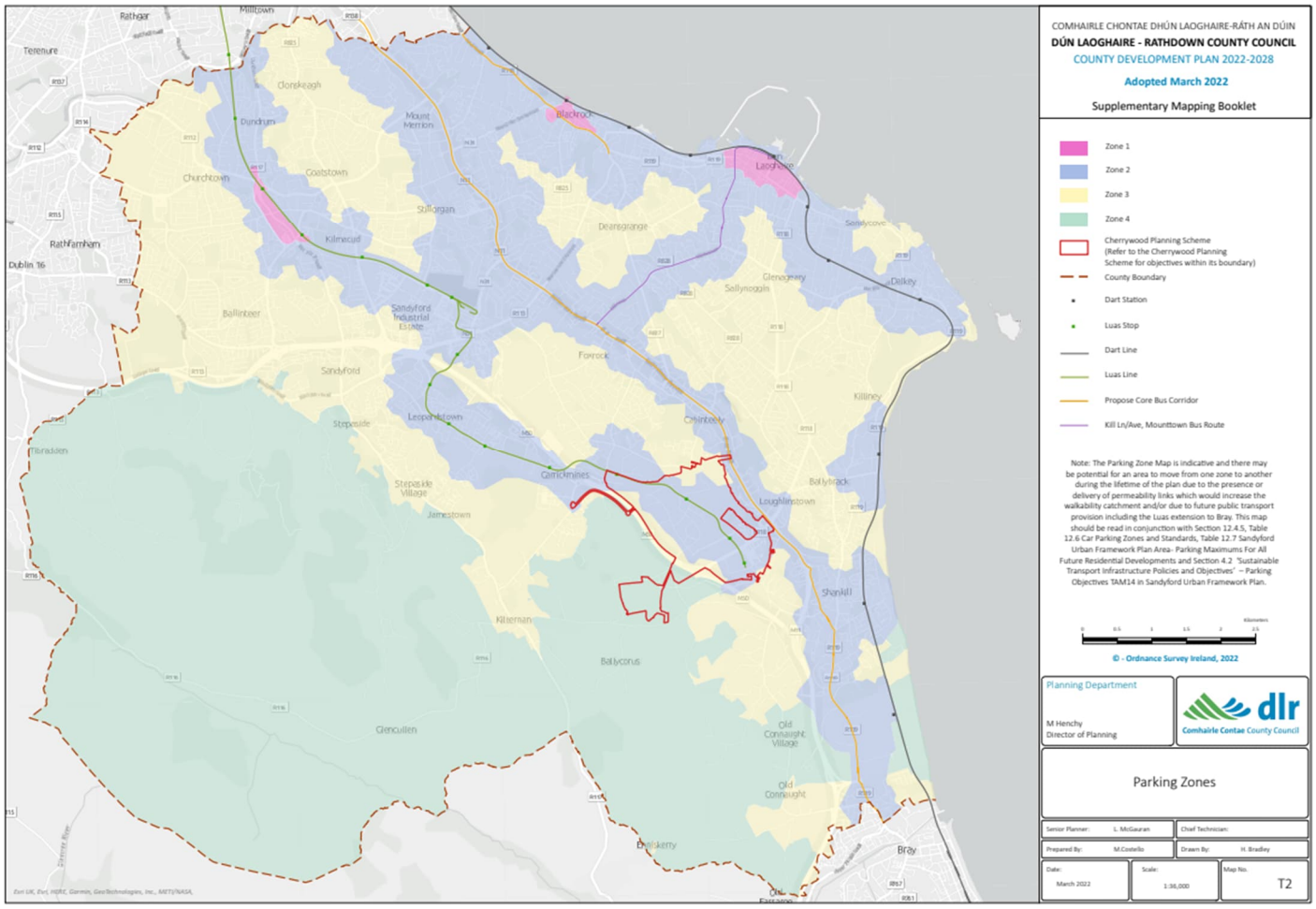
[48] For the purposes of this analysis, the maximum standard for studios has been assumed i.e. 50% reduction of 1-bed unit standard

[49] A 2-bed houses currently constitute a very small proportion of the currently proposed mix of typologies within Cherrywood, the proposed revised 1.0 space rate has not been factored into these calculations in lieu of the 0.75 rate.

[50] Unit splits between 3-bed unit and 3/+ bed houses currently not available, therefore maximum standard of 1.5 spaces per 3/+bed house assumed for the purposes of determining impact on spaces required.

Appendices

Appendix A Dún Laoghaire-Rathdown County Development Plan - Parking Zones



Appendix B Approved Residential Planning Applications Pre-2020

Planning Application Ref	No. of Units	Type of Units	Parking Car Spaces Proposed	Status	Car Parking Rate
DZ19A/0597	179	9 1-bed units, 18 2-bed units, 20 2-bed duplex, 20 3-bed duplex, 52 3-bed houses, 60 4-bed houses	312 spaces (surface level)	Granted	1.74
DZ17A/0714	322	242 apartments and 80 houses	485 spaces (surface level)	Granted	1.51
D15A/0385	164	14 3-bed and 74 4-bed houses. 76 apartments	309 (surface level)	Granted (FI requested)	1.88
DZ19A/0622[51] / DZ19A/0768	226	143 apartments and 83 houses	324 spaces (underground multi-storey/ basement)	Granted	1.43
DZ18A/0499	146	20 1-bed, 82 2-bed and 44 3-bed apartments	189 spaces (underground multi-storey/ basement)	Granted	1.43
D18A/0551	72	16 1-bed, 29 2-bed and 1 3-bed apartments. 18 3-bed and 8 4-bed houses	103 spaces (32 semi-basement and 71 surface level)	Granted	1.13
D18A/1175	48	20 1-bed and 28 2-bed apartments	54 spaces (underground multi-storey/ basement)	Granted	1.56
ABP30342919 - SHD	184	134 apartments, 14 duplex units and 36 houses	287 spaces (basement and surface level)	Granted	1.63

[51] Supersedes planning approval sought under application ref: D15A/0385

Planning Application Ref	No. of Units	Type of Units	Parking Car Spaces Proposed	Status	Car Parking Rate
DZ18A/0208	367	190 apartments and 93 4-bed houses	607 spaces (218 at basement level and 389 at surface level)	Only 329 units granted	-
DZ19A/0863	342	15 1-bed and 174 2-bed apartments; 14 2-bed and 14 3-bed duplex units; 40 2-bed and 20 3-bed triplex units; and 65 4-bed houses	565 (257 at basement level and 308 at surface level)	Granted	1.63
				Average Parking Rate	1.55

Appendix C - Cherrywood Car Ownership – Small Area Locations within SDZ