

Cherrywood Town Centre Environs (TCE): Transportation Review

Dún Laoghaire-Rathdown County Council

December 2024

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Dún Laoghaire-Rathdown County Council

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Executive Summary

Introduction

The Cherrywood Strategic Development Zone (SDZ) Development Agency Project Team (DAPT) commissioned AECOM to provide support in the review of physical infrastructure for a Proposed Amendment to the Cherrywood Town Centre SDZ Planning Scheme and Urban Form Development Framework (UFDF). The Proposed Amendment comprises changes to the land-use mix within the Town Centre Environs (TCE) which comprises the Town Centre core and the High Intensity Employment (HIE) areas.

The aim of the review is to develop inputs required in the preparation of a potential amendment to the Cherrywood Town Centre SDZ Planning Scheme. The review provides an overview of the current facilities, future required facilities and outlines initiatives needed to enhance, improve, or expand the capacity of existing facilities to meet future needs.

This report summarises the findings of the review of roads infrastructure, the public transport network, pedestrian and cycle facilities, and car parking.

Modelling Methodology

Two modelling exercises were undertaken of the Cherrywood SDZ transportation network. The first modelling exercise examines the operation of the existing transportation network using an assessment year of 2028. The second modelling exercise examines the impacts of the Proposed Amendment on the transportation network in 2043.

Two separate scenarios were developed for this modelling exercise, the Base Scenario which comprises the currently permitted scheme and the Amendment Scenario which comprises the proposed land-use changes. This enables for a comparison to be made between the two scenarios and the impacts of the Proposed Amendment can be identified.

Current Transport Capacity

The following methodology has been applied to assess the capacity of the existing road and public transport networks:

- Adopting an assessment year of 2028, the currently permitted development within the Cherrywood SDZ were input to the National Demand Forecasting Model (NDFM) from which updated trip levels were input to the relevant zones covering the Cherrywood SDZ within the Eastern Regional Model (ERM), replacing the previous trip quanta representing the ERM Reference Case.
- The ERM was run with the updated assumptions described above, providing forecast Base 2028 highway and public transport network demand flows in the Cherrywood SDZ.
- Using the Base 2028 ERM forecasts, available capacity on the public transport network (Luas and bus) was assessed along with potential to accommodate further demand. Using the Base 2028 ERM forecasts, available capacity on the highway network was assessed along with the potential to accommodate further demand. This included analysis of Junction A (Junction of Wyattville Link Road, Cherrywood Avenue and Valley Drive) using LinSig software. The Base forecasts assume Druids Glen Road, Barrington's Road and Kiltarnan Link Road are not open in 2028.

Future Transport Capacity

A 2043 Base Scenario was developed including land-use development assumptions (residential units, GFA) sourced from the Cherrywood Planning Scheme document (Chapter 6), for each of the eight development areas within the SDZ. For the TCE land-use plots, 100% build-out of planned maximum development levels was assumed; for the remaining plots within the SDZ, 70% build-out of planned

maximum development levels was assumed. The development levels were then converted to population and employment.

Using the 2043 Base Scenario as the basis, a 2043 Amendment Scenario was developed in which both residential and employment planned maximum development levels within the TCE were intensified. The development levels were sourced from information provided by DLRCC. Total development levels within the TCE and the SDZ for both the Base and Amendment Scenarios are shown in Table 0-1.

Table 0-1: Development levels, 2043 Base and 2043 Amendment Scenarios

		Total Population	Total Employment	Total School Enrolment
TCE	Base	3,296	23,885	-
	Amendment	7,266	28,816	-
	Amendment - Base	3,970	4,931	-
	Amendment/Base	120%	21%	-
SDZ	Base	17,238	25,734	4,688
	Amendment	21,208	30,664	4,688
	Amendment - Base	3,970	4,930	0
	Amendment/Base	23%	19%	0%

The planned development levels within the Cherrywood SDZ were input to the NDFM from which updated trip levels were input to the relevant zones covering the Cherrywood SDZ within the ERM, replacing the previous trip quanta representing the ERM Reference Case.

The ERM was run with the updated demand assumptions, providing forecast 2043 highway and public transport network demand flows in the Cherrywood SDZ for the Base and Amendment Scenarios. Both scenarios assume Druids Glen Road, Barrington's Road and Kiltarnan Link Road are open.

Assessment of Transport Capacity

The 2043 ERM outputs were interrogated to determine the AM peak trip generation figures associated with the Cherrywood SDZ. The trips have been categorised as arrivals to, and departures from, the Cherrywood SDZ. These trip generation figures are presented in Table 0-2 and Table 0-3.

Table 0-2: 2043 Arrivals to Cherrywood SDZ

Scenario	Car	Taxi	Heavy Vehicle	Public Transport	Walk	Cycle	Total
AM Base	4,789	100	116	3,889	2,493	626	12,014
AM Amendment	4,813	103	132	4,936	2,954	800	13,738

Table 0-3: 2043 Departures from Cherrywood SDZ

Scenario	Car	Taxi	Heavy Vehicle	Public Transport	Walk	Cycle	Total
AM Base	2,241	77	153	1,502	1,891	216	6,080
AM Amendment	2,441	84	183	1,746	2,226	248	6,931

Table 4-5 and Table 4-6 illustrate that the Base Scenario will result in result in 18,094 trips, comprising 12,014 arrivals and 6,080 departures. The Amendment Scenario will result in an additional 2,575 trips with a resultant total of 20,669 trips, comprising 13,738 arrivals and 6,931 departures.

Interrogation of the outputs revealed 224 of the additional trips will be made by cars, 1,291 of the additional trips by public transport and 1,002 of the additional trips by active travel modes.

Using these ERM forecasts, available capacity on the transport network was assessed along with potential to accommodate further demand.

Roads

Initial tests of operating conditions in 2028 were completed which assume that all currently permitted developments are complete and occupied by 2028 and that Druid's Glen Road and Kiltiernan Link Road will not be in place. This analysis indicates that Junction A will be operating overcapacity with a maximum DoS of 108.5% by 2028. This is based on the assumption that the mode share for Cherrywood is as stated in the ERM outputs (57% car/43% Non-Car modes). However, following the implementation of measures as outlined in the Planning Scheme it is anticipated that a Non-Car target mode share of 53% will be achieved. Additionally, the implementation of these measures along with the implementation of stricter parking standards in line with the proposed amendment to the Planning Scheme are anticipated to result in an overall Non-Car target mode share of 66%. If the Non-Car mode share of 66% is achieved, Junction A will operate with a maximum DoS of 79.9% in the 2028 Base Scenario.

Examination of the 2043 ERM found that within the Cherrywood SDZ, the Wyattville Link Road will be operating at close to its theoretical capacity in both the Base and Amendment Scenarios. It was also found that Barrington's Road from the Kiltiernan Link Road will be operating over capacity in both the Base and Amendment Scenarios.

On the external road network, it was found that the M50 southbound off-ramp at Junction 16 will be operating at close to its capacity in both 2043 scenarios. It was also found that the N11 northbound will be operating at close to its theoretical capacity in both scenarios. The number of vehicles on each link and the overall impact to these links as a result of the Amendment Scenario are minimal. The M50 southbound off-ramp at Junction 16 will experience an increase in the flow from 81% of capacity to 82%. Other links, such as Wyattville Link Road and the N11 will experience a decrease in the ratio of flow of 2%.

Given the operational performance of Junction A in 2028, more detailed analysis of the performance of Junction A has been undertaken in LinSig, for both the 2043 Base Scenario and the Amendment Scenario. It is anticipated that Junction A will be operating over its theoretical capacity in 2043 in both the Base and Amendment Scenarios. In both scenarios, Junction A will be operating at approximately 70% over capacity resulting in significant approach queue lengths on Wyattville Link Road.

Examination of the LinSig model found that the mean max queue on Wyattville Link Road is approximately 1,648m towards the N11 and 888m towards the M50 in the Base Scenario. In the Amendment Scenario, the mean max queue will increase to 1,729m towards the N11 and to 951m towards the M50. However, it should be noted that the whilst the proposed land-use mix changes are resulting in changes to the mean max queue length, the change in queue length is approximately 5% of the Base Scenario queue towards the N11 and 7% of the Base Scenario queue towards the M50. There is also minimal impact to the overall operation of Junction A.

Parking

It has been assumed that parking for additional development in the Amendment Scenario will be provided in line with the standards applied for the rest of the SDZ. Whilst the Amendment Scenario generates an additional 2,500 trips in the AM Peak compared to the Base Scenario, the Base Scenario shows that Junction A is already operating significantly above capacity. Therefore, whilst the Amendment Scenario will entail the provision of additional car parking, the emphasis should be on encouraging trips to use public transport and active modes.

Public Transport

The DLR County Development Plan 2022-2028, has set a goal of implementing the full Dublin BusConnects programme, including the complete redesign of the bus network and network of core bus corridors on the busiest routes outlined in the GDA Transport Strategy. Within the Cherrywood area, the BusConnects programme includes the E-Spine along the N11 providing access to the Dublin City Centre from Bray, and the L22 service which is a bus priority route from Dún Laoghaire to Cherrywood. The E-Spine routes and the L22 service, along with associated bus stops, are included in the 2043 ERM. The GDA Transport Strategy and the NDP 2018-2027 also 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. The proposed extension of the Luas Green Line on its south end, from Bride’s Glen to Bray, which will enhance connectivity to the south is included in the 2043 ERM.

The capacities of the Luas network were assessed against forecast passenger demand extracted from the NTA ERM. The northbound direction was found to carry the highest passenger load and was therefore used as the basis for the assessment.

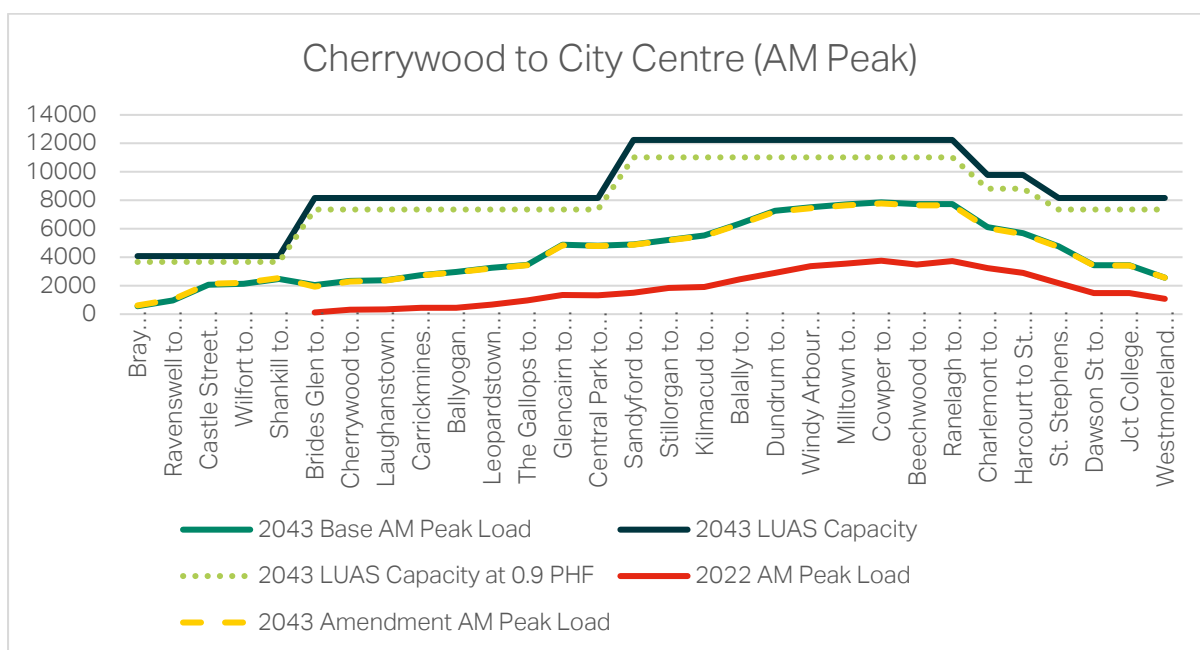


Figure 0-1: Luas Capacity Analysis

As outlined in the Figure 0-1 above, there is spare capacity for 1,100 passengers on the Luas in 2043 in both the Base and Amendment Scenarios. It was also projected that the maximum number of bus movements in Cherrywood, in the AM peak hour, is approximately 1,500 passengers in the Base Scenario, and increases to approximately 1,860 passengers in the Amendment Scenario. In the PM peak hour, the maximum number of bus movements in Cherrywood is approximately 1,750 passengers in the Base Scenario and increases to approximately 2,190 passengers in the Amendment Scenario.

Further analysis of the capacity of the N11 bus network was assessed against forecast passenger demand extracted from the NTA ERM. The northbound direction was found to carry the highest passenger load and was therefore used as the basis for the assessment. The results of this assessment are presented in Figure 0-2.

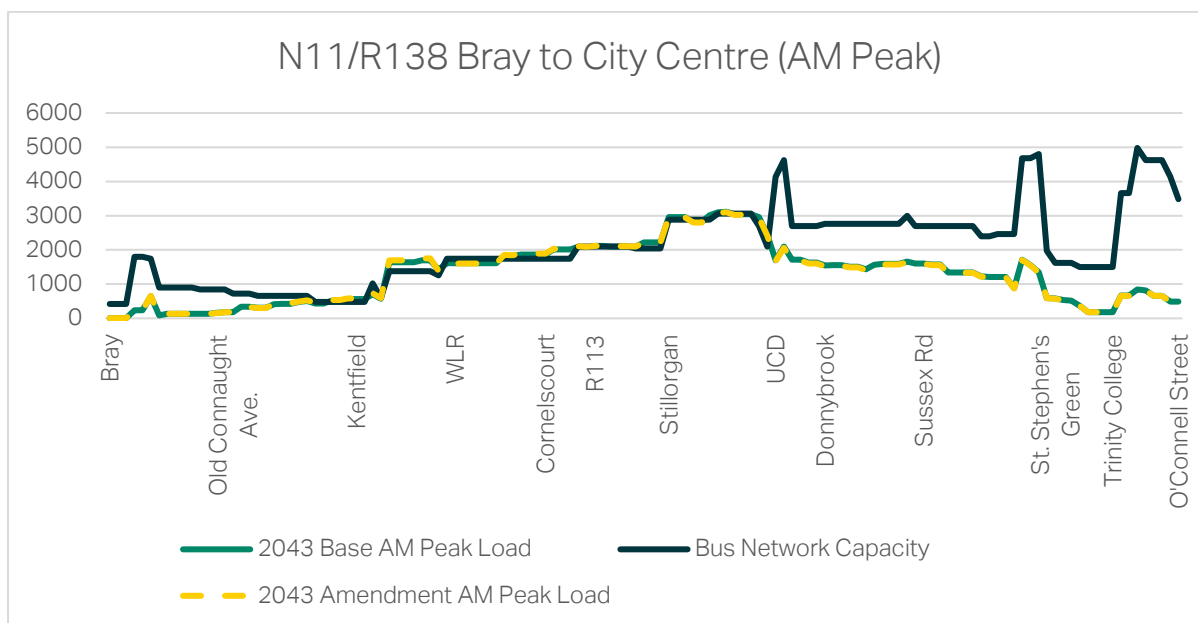


Figure 0-2: Bus Capacity Analysis

As outlined in the Figure 0-2 above, the bus routes on the N11 will be operating at capacity in 2043 in both the Base and Amendment Scenarios. Various sections of the N11 from the Wyattville Link Road to UCD will be alternating between operating under capacity and overcapacity. However, it should be noted that the changes associated with the Amendment Scenario are minimal. A number of additional measures exist which may encourage higher public transport usage within Cherrywood. These include the provision of mobility hubs and park and ride facilities.

Active Travel

Based on the outputs of the 2043 ERM, it was found that active travel accounts for 5,226 trips during the AM peak in the Base Scenario. This comprises 4,384 walking trips and 842 cycling trips. The total number of active travel trips increases by 1,002 trips to 6,228 during the AM peak in the Amendment Scenario, comprising 5,180 walking trips and 1,048 cycling trips. Based on current and proposed active travel facilities within Cherrywood Town Centre, the SDZ and the surrounding area, it is determined that the facilities are adequate to accommodate these additional trips.

The R118 Wyattville Link Road in its current configuration is an unattractive environment for active travel users with high vehicle speeds and long, indirect crossings which may deter pedestrians and cyclists from crossing the R118 Wyattville Link Road. One of the key measures required to encourage active travel within the Cherrywood Town Centre is providing additional pedestrian crossing facilities of the R118 Wyattville Link Road as well as the provision of new crossings at suitable locations. The proposed crossings of the R118 Wyattville Link Road within the Cherrywood Town Centre, and the order in which these should be delivered are:

1. Junction A Crossing.
2. Junction O Crossing.
3. Grand Parade Bridge.
4. Main Street Bridge.

The provision of the active travel crossing at Grand Parade is required as soon as possible to address severance issues within the existing Cherrywood Town Centre. The provision of this crossing may also provide operational improvements to Junction A for vehicular traffic by attracting active travel users away from Junction A, resulting in less frequent pedestrian stages within each traffic signal cycle, resulting in more time being available for vehicular traffic.

A number of additional measures exist which may encourage higher active travel usage within Cherrywood. These include the provision of shared micromobility facilities and ensuring that the development follows the principles of 15-mins neighbourhoods.

Recommendations

Roads Measures

A number of measures have been identified which may improve the performance of Junction A in the future. Subject to observance of the *Spatial Planning and National Roads Guidelines for Planning Authorities* (DoECLG, 2012) and compliance with TII Publications or DMURS as appropriate, these measures include:

- Filtered permeability/traffic management solutions.
- Signal optimisation.
- Amendments to the geometry of Junction A, including:
 - Provision of slip lanes.
 - Reducing the overall junction size.
- Optimising other junctions on Wyattville Link Road, including Junction O.
- Completion of Grand Parade which may reduce pedestrian stages at Junction A.
- Behavioural Change Measures such as provision of wayfinding signage to key destinations with walking and cycling times.
- Adjusted Car-Parking Standards.

In addition, a range of further measures, which can contribute to the overall safety and sense of place of the road network have been identified such as speed limits review, transition zones and increased use of shared mobility.

Car Parking

It is recommended that parking standards and the approach to parking provision within the Cherrywood SDZ are reviewed regularly to ensure that the parking standards remain appropriate to achieve ambitious modal split targets.

Phasing

Roads

The following key indicators and thresholds have been identified as being appropriate for determining the requirement for the Kiltarnan Link Road:

- Max Degree of Saturation at Junction A:
 - Threshold of 105%
- Queue Lengths on Wyattville Link Road:
 - Threshold of 650m towards M50
 - Threshold of 240m towards N11

The above thresholds are levels at which it is determined that Kiltarnan Link Road is required. Therefore, to ensure delivery of Kiltarnan Link Road in advance of reaching these thresholds, it is recommended that development of Kiltarnan Link Road commence when any of these thresholds reach 80% of the level identified above.

An annual assessment of the strategic road network performance is undertaken by DLRCC in conjunction with TII and in consultation with the NTA. This assessment is undertaken using annual traffic

surveys, which are completed in November each year. It is proposed to expand the scope of this assessment to include:

- An assessment of Junction A operational performance using LinSig or similar software.
- Analysis of recorded queue lengths towards on Wyattville Link Road.

Active Travel

Grand Parade needs to be completed between 2028 and 2043 as it was found to be at capacity in 2028 with all the measures described in place. Grand Parade should be completed in accordance with the phasing of development under the existing grant of permission DZ17A/0862, as amended, or prior to the occupation of any additional development within TCC1, TCC2 or TCC4 (this would then accord with the proposed amendment. It is worth noting that Wyattville Link Road is a hostile environment for vulnerable road users and causes severance issues within the existing Cherrywood Town Centre. Therefore, it is recommended that Grand Parade be completed as soon as possible to address severance issues.

The delivery of the Main Street Bridge, crossing between TC1 and TC3, will help improve connections between various development types. It will facilitate active travel trips within the Cherrywood Town Centre and between the Town Centre and wider SDZ. Additionally, given the hostile nature of Wyattville Link Road, delivery of this infrastructure will provide a safe, segregated route for active travel trips. It is therefore recommended, that Main Street Bridge is to be provided in conjunction with the respective development parcels in TC1 and TC3, namely TCC1B-5 / TCC1B-6 or TCC3-2 / TCC3-3.

The delivery of active travel crossing facilities at Junction O will improve connections between TC1 and TC3 and will result in an alternative at-grade crossing to Junction A. It is recommended that Junction O should be provided prior to the occupation of any additional development within the Town Centre Core or Town Centre Environs (TCC1, TCC3, TCE4 and TCE5).

Junction A is an existing signal-controlled junction which comprises Wyattville Link Road, Cherrywood Avenue and Valley Drive. Measures should be provided at this junction to segregate cyclists from vehicular traffic on all arms. Additionally, signal timings should be examined to determine if enhancements to pedestrian crossing times are possible. Any proposed changes should be cognisant of traffic impacts associated with signal timing changes and should balance the needs of all users. It is recommended that any improvements to Junction A should be provided prior to the occupation of any additional development within the Town Centre Core.

1. Introduction

The Cherrywood Strategic Development Zone (SDZ) Development Agency Project Team (DAPT) commissioned AECOM to provide support in the review of physical infrastructure for a Proposed Amendment to the Cherrywood Town Centre SDZ Planning Scheme and Urban Form Development Framework (UFDF).

The aim of the review is to develop inputs required in the preparation of a potential amendment to the Cherrywood Town Centre SDZ Planning Scheme. The review provides an overview of the current facilities, future required facilities and outlines initiatives needed to enhance, improve, or expand the capacity of existing facilities to meet future needs.

This report summarises the findings of the review of roads infrastructure, the public transport network, pedestrian and cycle facilities, and car parking.

1.1 Cherrywood SDZ Overview

Cherrywood was designated as an SDZ in May 2010 by Government Order on behalf of Dún Laoghaire-Rathdown County Council (DLRCC). The SDZ covers 360ha of development lands located around 16km south-east from Dublin City Centre. The lands are generally 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 shown in Figure 1-1. Development of these areas requires the provision of key basic infrastructure such as Public Transport, Active Travel Infrastructure, Water Supply and Wastewater Drainage. These could be provided through extensions of existing facilities in areas adjacent to the development areas or the development of new infrastructure to meet current and projected future demand.

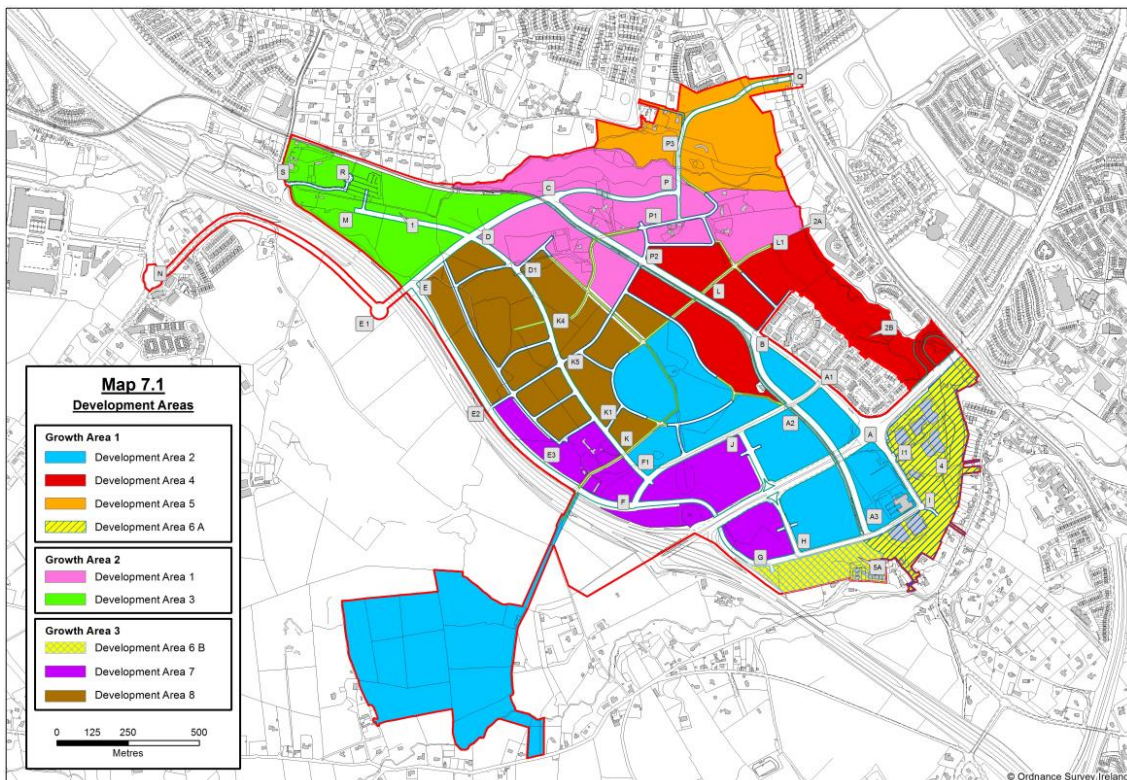


Figure 1-1: Cherrywood SDZ Development and Growth Areas

One of the primary visions of the Cherrywood SDZ is to “provide a safe and friendly environment where people can live, work and play within an envelope of sustainable, integrated transport with a primacy of soft modes of transport throughout.” This is to be achieved through balanced growth, restoring

connectivity to adjoining areas which has been severed by major roads, and creating an environment that promotes internal pedestrian and cyclist movement. It is intended that the potential amendment to the Cherrywood Town Centre SDZ Planning Scheme aligns with this vision and assists in its delivery through early identification of issues and development of mitigation measures to address same.

1.2 Approach to the Technical Review

The review started with consideration of the policy context within which Proposed Amendment to the Cherrywood Town Centre SDZ Planning Scheme and Urban Form Development Framework (UFDF) will be made. A high-level policy review was undertaken to determine alignment between the amendment and relevant policy and to identify key policy needs to be considered in proposing infrastructure investment or other interventions.



Figure 1-2: Approach to TCE Transport Assessment

The next step was a baseline assessment through which the current state and capacity of infrastructure and services was determined. Baseline assessment included a review of existing information such as drawings and designs of existing infrastructure and services. It also included engagements with relevant DLRCC officials and stakeholders responsible for the management of existing facilities to develop insights into the state of these facilities.

After a baseline of existing facilities was developed, the next step was to assess future requirements. This was based on requirements in plans for the growth areas, supplemented by analysis such as modelling of future requirements.

The fourth step was the development of options to address the gap between baseline and future requirements. This included the development of a list of potential interventions to meet the needs of the planned developments. The approach to developing options was based on guidelines in frameworks such as the National Investment Framework for Transport in Ireland (NIFTI), which includes a hierarchy of interventions shown in Figure 1-3. The NIFTI hierarchy prioritises maintenance, optimisation, and improvement of existing facilities before major investment in new facilities is made. Whilst NIFTI was developed to provide guidelines for transport investments, its intervention hierarchy is applicable to other types of infrastructure and services needed in Cherrywood and was therefore adopted where possible.



Figure 1-3: National Investment Framework for Transport in Ireland Intervention Hierarchy

2. Policy Review

Since the Cherrywood SDZ Planning Scheme was approved in 2014, there have been several changes to national, regional, and local environment, transport and land use policy. One of the key changes is an accelerated shift to more sustainable modes of transport. This change in policy focus will have an impact on future growth and development priorities in Ireland. The Cherrywood SDZ Planning Scheme placed an emphasis on sustainable modes of transport, however, within the context of changes to key national, regional and local policy, an even greater emphasis can be placed on sustainable travel and where possible reduce the need for travel. A summary of the key transport-related policies and strategies since 2014 is provided in Figure 2-1.



Figure 2-1: Key Policy Changes Since 2014

Through the Climate Act 2021, 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. Transport will have a significant role in delivering future carbon reductions. However, reductions in transport-related emissions alone will not achieve the target reductions. Change will be achieved through a combination of low carbon initiatives, societal and behavioural changes.

Linked to climate change, another key area of focus in policy is climate resilience, which will influence infrastructure planning and development. The frequency and severity of climate events such as heavy rains and flooding has increased, making mitigation measures that improve resilience to these factors significantly more important than they were in the past.

A summary of relevant national, regional, and local policies considered in this review is provided in Table 2-1.

Table 2-1: Relevant Policies Reviewed

Government Level or Sphere	Relevant Policies
National	<ul style="list-style-type: none"> • Climate Action Plan 2024 & Climate Action and Low Carbon Development (Amendment) Act 2021 • Project Ireland 2040 – National Planning Framework. • Project Ireland 2040 – National Sustainable Mobility Policy. • National Investment Framework for Transport in Ireland (NIFTI). • Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024) • Spatial Planning and National Roads Guidelines for Planning Authorities (2012). • Sustainable Urban Housing : Design Standards for New Apartments Guidelines for Planning Authorities, 2023. • Urban Development and Building Height Guidelines for Planning Authorities, 2018.
Regional	<ul style="list-style-type: none"> • Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region (2019-2031). • National Transport Authority – Greater Dublin Area Transport Strategy 2022-2042.
Local	<ul style="list-style-type: none"> • DLRCC Climate Change Action Plan 2024-2029. • DLRCC County Development Plan 2024-2029.
Standards and Guidance	<ul style="list-style-type: none"> • Design Manual for Urban Roads and Streets (DMURS) (2012 and 2019). • TII Publications (Standards and Technical) (2016 onwards).

An overview of these policies is provided in Appendix A, covering their relevance to the infrastructure review and how they could influence Cherrywood SDZ infrastructure provision decisions.

2.1 Findings of Policy Review

Most of the policies reviewed recognise that the success of transport planning in meeting society's needs requires close integration of transport investment and land use planning, to guide the direction of future development within the Region. Whilst the Cherrywood SDZ Planning Scheme already prioritises sustainable travel modes, the new policy context places a greater emphasis on this and highlights the increasing urgency of climate action. New developments such as Cherrywood SDZ must place greater focus on sustainable travel and where possible reduce the need for travel through the provision of local services and amenities, including remote working hubs, in an environment where it is attractive to walk and cycle.

The policies also acknowledge that a range of measures to discourage private car use, such as reduced availability of car parking, and to encourage sustainable travel options such as car sharing schemes and improved active travel infrastructure, are required to achieve a shift to more sustainable modes of transport.

Suitable infrastructure is a key enabler to sustainable mobility. This includes infrastructure for more sustainable modes such as active travel, light rail and other public transport such as buses. Considering the key role of infrastructure in sustainable mobility, the Cherrywood SDZ Infrastructure Review included in this report will have a significant role in supporting DLRCC sustainable mobility goals. The review is aligned with most policies and interventions to be proposed will be informed by the objectives of the various policies and strategies.

3. Modelling Methodology

3.1 Current Transport Capacity

The following methodology has been applied to assess the capacity of the existing road and public transport networks:

1. Adopting an assessment year of 2028, the currently permitted development within the Cherrywood SDZ were fed into the National Demand Forecasting Model (NDFM) from which updated trip levels were input to the relevant zones covering the Cherrywood SDZ within the Eastern Regional Model (ERM), replacing the previous trip quanta representing the ERM Reference Case. This scenario assumes a 57%/43% Car/Non-Car mode split in the AM Peak.
2. The ERM was run with the updated assumptions described above, providing forecast Base 2028 highway and public transport network demand flows in the Cherrywood SDZ.
3. Using the Base 2028 ERM forecasts, available capacity on the public transport network (Luas and bus) was assessed along with potential to accommodate further demand.
4. Using the Base 2028 ERM forecasts, available capacity on the highway network was assessed along with potential to accommodate further demand. This included analysis of Junction A (Junction of Wyattville Link Road, Cherrywood Avenue and Valley Drive) using LinSig software. The Base forecasts assume Druids Glen Road, Barrington's Road and Kiltiernan Link Road are not open in 2028. The opening of Druids Glen Road is directly linked to Barrington's Road as Barrington's Road would be required to be in place prior to the opening of the through route along Druids Glen Road.

The main input to the NDFM is a planning data sheet which includes a range of demographic information such as population, employment, commercial and educational details at Census Small Area level. The Cherrywood SDZ Planning Scheme includes details on proposed development in terms of floor area and residential units. The following assumptions (Table 3-1) were adopted for converting the planning scheme information into numbers of employees/residents ready for input into the NDFM.

Table 3-1: 2028 Land Use Density Assumptions

Land use	Density Assumption
Retail	30 sq m per employee
HIE	20 sq m per employee
Commercial	47 sq m per employee
Non-Retail	20 sq m per employee
Hotel	0.3 staff per room
Residential	2.06 residents per residential unit

Source: Appendix A - 20170405 Cherrywood SDZ Transport Modelling Report v5.8 by Systra (on behalf of Hines)

3.2 Future Transport Capacity

The following methodology has been applied to assess the travel demand impact of an altered land-use mix within the Cherrywood Town Centre and Environs (TCE) on the transport network serving the Cherrywood SDZ.

1. A 2043 Base Scenario was developed including land-use development assumptions (residential units, GFA) sourced from the Cherrywood Planning Scheme document (Chapter 6), for each of the eight development areas within the SDZ. For the TCE land-use plots, 100% build-out of planned maximum development levels was assumed; for the remaining plots within the SDZ, 70% build-out of planned maximum development levels was assumed.
2. The development levels were converted to population and employment using the assumptions contained in Table 3-2. Numbers of pupils were sourced from the previous Cherrywood SDZ:

Development Sequencing and Transport Capacity study undertaken for DLRCC which assumed 672 pupils attending each primary school and 1,000 pupils attending each post-primary school (based on planned enrolment). Existing population levels within the SDZ were sourced from the 2011 Census and added to the population totals. The data was aggregated by Census Small Area (CSA) ready for input to the transport modelling.

Table 3-2: 2043 Land Use Density Assumptions

Land use	Density Assumption
Retail	30 sq m per employee
HIE	17.5 sq m per employee
Commercial	47 sq m per employee
Non-Retail	20 sq m per employee
Residential	2.06 residents per residential unit

Source: Appendix A - 20170405 Cherrywood SDZ Transport Modelling Report v5.8 by Systra (on behalf of Hines)

HIE – Discussions with DLRCC

- Using the 2043 Base Scenario as the basis, a 2043 Amendment Scenario was developed in which both residential and employment planned maximum development levels within the TCE were intensified. The development levels were sourced from information provided by DLRCC. Total development levels within the TCE and the SDZ for both the Base and Amendment Scenarios are shown in Table 3-3.

Table 3-3: Development levels, 2043 Base and 2043 Amendment Scenarios

		Total Population	Total Employment	Total School Enrolment
TCE	Base	3,296	23,885	-
	Amendment	7,266	28,816	-
	Amendment - Base	3,970	4,931	-
	Amendment/Base	120%	21%	-
SDZ	Base	17,238	25,734	4,688
	Amendment	21,208	30,664	4,688
	Amendment - Base	3,970	4,930	0
	Amendment/Base	23%	19%	0%

As the exact quantum of development is unknown and will be driven primarily by private developers and market conditions, population levels included in the 2043 Scenarios are developed using a range of planned maximum development levels within the TCE. There is flexibility of $\pm 5\%$ of these levels within the modelled scenarios and additional modelling should be undertaken for increases in excess of this.

- The planned development levels within the Cherrywood SDZ (shown in Table 3-3) were fed into the National Demand Forecasting Model (NDFM) from which updated trip levels were fed into the relevant zones covering the Cherrywood SDZ within the Eastern Regional Model (ERM), replacing the previous trip quanta representing the ERM Reference Case. This Base Scenario assumes a 42%/58% Car/Non-Car mode split in the AM Peak; the Amendment Scenario assumes a 37%/63% split.
- The ERM was run with the updated demand assumptions, providing forecast 2043 highway and public transport network demand flows in the Cherrywood SDZ for the Base and Amendment Scenarios. Both scenarios assume Druids Glen Road, Barrington's Road and Kiltarnan Link Road are open.

6. Using the ERM forecasts, available capacity on the public transport network (Luas and bus) was assessed along with potential to accommodate further demand.
7. Using the ERM forecasts, available capacity on the highway network was assessed along with potential to accommodate further demand. This included analysis of Junction A using LinSig software.
8. The Cherrywood SDZ mode share targets (47%/53% Car/Non-Car) assume the implementation of various measures including parking standards to minimise car use. The forecast mode shares from ERM assume a lower car mode share in both Base (42%) and Amendment (37%) Scenarios and therefore it can be implied that the measures underpinning the Cherrywood SDZ mode share targets are implicit within the ERM forecasts. Using the ERM forecasts, further scenarios assuming stricter parking standards (in line with proposed amendments to both residential and non-residential parking standards) were generated to assess whether capacity constraints identified at Junction A could be mitigated. The impact of the stricter parking standards on mode share was derived by calculating proxy car trip levels within the SDZ based on planned parking standards within the SDZ, as contained in the Cherrywood Planning Scheme document and comparing this with equivalent trip levels assuming the stricter standards. Table 3-4 shows the existing SDZ planned parking standards and the amended parking standards by land-use type. This resulted in a car/non-car mode share split of 34%/66% with the stricter parking standards; thus, the car mode share split was reduced from 42% in the Base Scenario and 37% in the Amendment Scenario. The test was applied by manually adjusting traffic flows to and from the Cherrywood SDZ at Junction A within LinSig, as well as manually adjusting equivalent public transport demand to consider any capacity constraints on the public transport network.

Table 3-4: Existing and planned amendments to SDZ parking standards

	Existing SDZ Planning Standard	Amended SDZ Planning Standard
Studio/1-bed (car parking space/res unit)	0.9	0.5
2-bed (car parking space/res unit)	0.9-1.2	0.5-1
3-bed (car parking space/res unit)	0.9-2	0.5-1.5
Office Employment (sq m/car parking space)	100	140

3.3 Model Validation

A model validation exercise was undertaken to ensure that the NTA ERM outputs are representative of current traffic levels within the Cherrywood area. This validation was undertaken using actual and modelled queue length data for Junction A. Actual queue length data was recorded for three neutral days in November 2024 and the average queue length was calculated based on these surveys. The anticipated queue lengths were obtained from the LinSig model developed using the base 2028 ERM model.

Whilst the ERM replicates observed queues on Arms A and B reasonably well, it significantly underestimates observed queues on Arm C (by approximately 60%). This most likely reflects an underestimation of background traffic in the 2028 ERM as the SDZ is only partially built out at present. However, the future 2043 scenarios examined within the Cherrywood SDZ as part of this study are based on a detailed bottom-up review of planned development within the SDZ. As such we have confidence in the robustness of the overall traffic levels and queue lengths forecast.

4. Cherrywood Transport Characteristics

4.1 Current Transport Characteristics

To develop an understanding of current travel characteristics within the Cherrywood SDZ, an analysis of the 2022 Census POWSCAR dataset was undertaken. This assessment identified the modal choice as well as the origin-destination information for commuting and education trips within the study area. The following sections detail the findings of this exercise.

4.1.1 Origins and Destinations

Table 4-1 and Table 4-2 shows the origins and destinations of daily trips to and from the Cherrywood SDZ study area made by residents travelling for work purposes. These tables demonstrate that Dublin City is both the largest origin (19.6%) and destination (24.1%) for work trips associated with the Cherrywood SDZ. Dún Laoghaire-Rathdown is the second largest origin (15.2%) and destination (23.8%) for trips. Other counties which all account for less than 10% of origins and destinations each are South Dublin, Fingal and Wicklow.

Table 4-1: 2022 POWSCAR trips by residents of the study area for work purposes, using all transport modes

Resident Destination (Work)	Number of Trips (Daily)	Percentage of Trips
Dublin City	169	24.1%
Dún Laoghaire-Rathdown	167	23.8%
South Dublin	56	8.0%
Fingal	27	3.8%
Wicklow	26	3.7%

Table 4-2: 2022 POWSCAR trips by origins to the study area for work purposes, using all transport modes

Origin (Work)	Number of Trips (Daily)	Percentage of Trips
Dublin City	527	19.6%
Dún-Laoghaire Rathdown	410	15.2%
South Dublin	233	8.7%
Fingal	169	6.3%
Wicklow	146	5.4%

Table 4-3 and Table 4-4 shows the origins and destinations of daily trips to and from the Cherrywood SDZ study area made by residents travelling for education purposes. These tables demonstrate that Dún Laoghaire-Rathdown is both the largest origin (20.9%) and destination (44.8%) for education trips associated with the Cherrywood SDZ. Dublin City is the second largest destination (10.3%) for trips, with Wicklow being the second largest origin (9.6%) for education trips to the Cherrywood SDZ.

Table 4-3: 2022 POWSCAR trips by residents of the study area for education purposes, using all transport modes

Resident Destination (Education)	Number of Trips (Daily)	Percentage of Trips
Dún-Laoghaire Rathdown	235	44.8%
Dublin City	54	10.3%

Table 4-4: 2022 POWSCAR trips by origins to the study area for education purposes, using all transport modes

Origin (Education)	Number of Trips (Daily)	Percentage of Trips
Dún-Laoghaire Rathdown	48	20.9%
Wicklow	22	9.6%

4.1.2 Modal Split

The means of travel used by residents of the Cherrywood SDZ and those travelling to the SDZ are presented in Figure 4-1 and Figure 4-2.

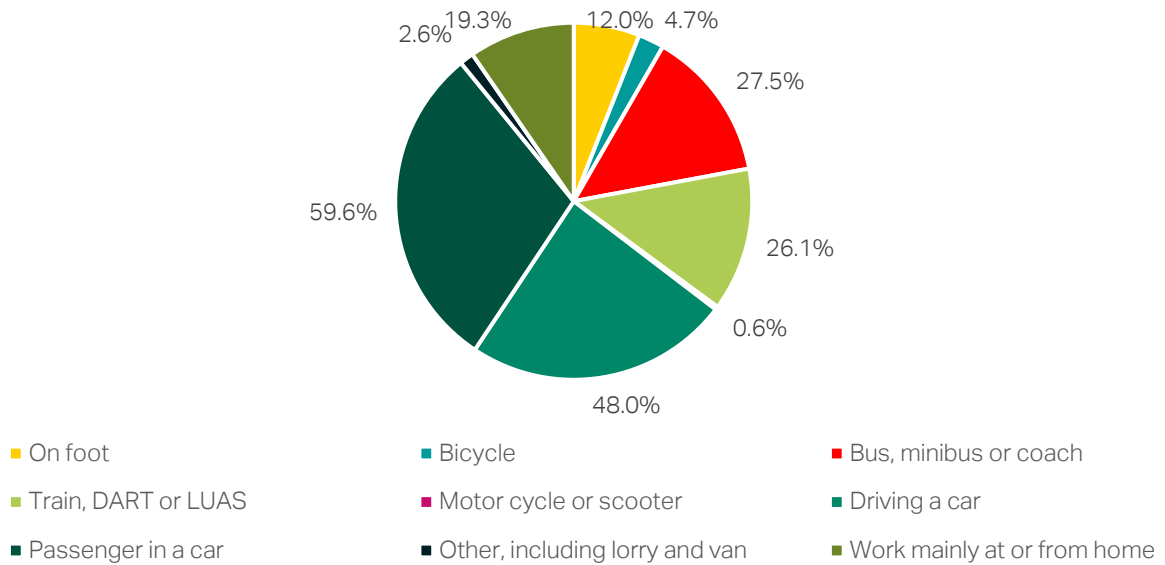


Figure 4-1: 2022 POWSCAR Mode Share for Cherrywood Residents

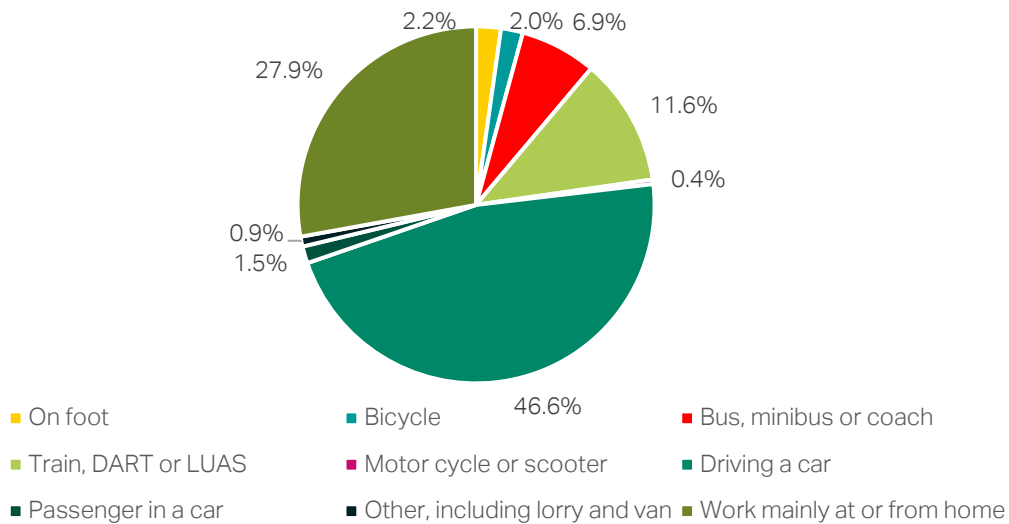


Figure 4-2: 2022 POWSCAR Mode Share for Commuters to Cherrywood

Car drivers have the largest modal share, for both trips by residents of the SDZ and trips to the SDZ accounting for 31.2% of trips by residents of the study area and 46.6% of trips to the study area. Interestingly, car passengers account for 20% of modal share for trips by residents of the SDZ.

Of public transport modes, travelling by train, DART or Luas has the largest modal share with 14.3% of residents and 11.6% trips to the SDZ are made by this mode. There is very low usage of active travel modes either by residents in the SDZ or by those accessing the SDZ, at 7.8% and 4.2% of trips respectively.

4.2 Future Transport Characteristics

The future travel patterns within Cherrywood SDZ were assessed using outputs from the 2043 ERM. This exercise was undertaken for both the Base and the Amendment Scenarios and forms the basis of the assessments contained within this report. The findings of this exercise are detailed in the following sections.

4.2.1 Trip Generation

The 2043 ERM outputs were interrogated to determine the AM peak trip generation figures associated with the Cherrywood SDZ. The trips have been categorised as arrivals to, and departures from, the Cherrywood SDZ. These trip generation figures are presented in Table 4-5 and Table 4-6.

Table 4-5: 2043 Arrivals to Cherrywood SDZ

Scenario	Car	Taxi	Heavy Vehicle	Public Transport	Walk	Cycle	Total
AM Base	4,789	100	116	3,889	2,493	626	12,014
AM Amendment	4,813	103	132	4,936	2,954	800	13,738

Table 4-6: 2043 Departures from Cherrywood SDZ

Scenario	Car	Taxi	Heavy Vehicle	Public Transport	Walk	Cycle	Total
AM Base	2,241	77	153	1,502	1,891	216	6,080
AM Amendment	2,441	84	183	1,746	2,226	248	6,931

Table 4-5 and Table 4-6 illustrate that the Base Scenario will result in result in 18,094 trips, comprising 12,014 arrivals and 6,080 departures. The Amendment Scenario will result in an additional 2,575 trips with a resultant total of 20,669 trips, comprising 13,738 arrivals and 6,931 departures.

Interrogation of the outputs revealed 224 of the additional trips will be made by cars, 1,291 of the additional trips by public transport and 1,002 of the additional trips by active travel modes.

4.2.2 Modal Split

Target Modal Split

One of the objectives of the Cherrywood SDZ Planning Scheme is to develop and support a culture of sustainable travel into and within Cherrywood. This includes a focus on transit-oriented development (TOD) as proposed in the Greater Dublin Area (GDA) Transport Strategy. As part of this, the DLRCC has set challenging but achievable targets for sustainable travel modes in Cherrywood. Modal share targets for the various modes are shown in Figure 4-3. The aim is to:

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

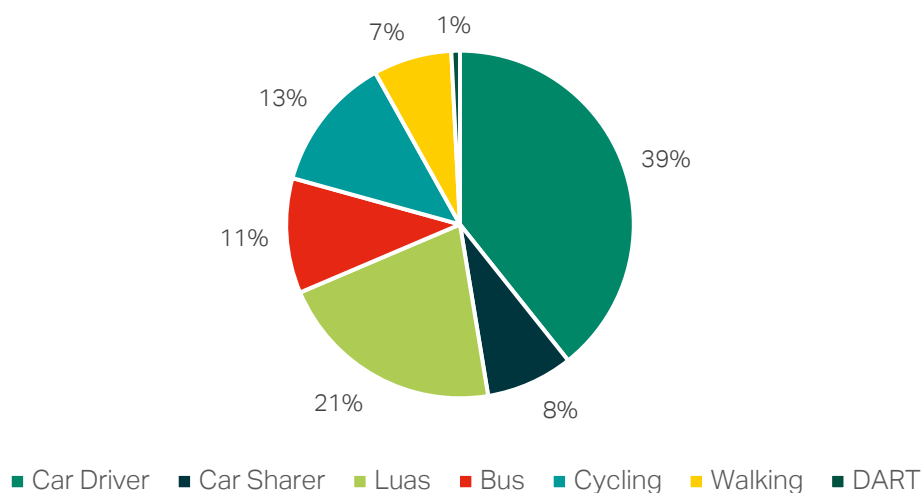


Figure 4-3: Cherrywood SDZ Sustainable Travel Targets

The Cherrywood Planning Scheme sets out a mode share target of 39% of trips by private car. To achieve this a high level of access to public transport modes will be required.

Future Modal Split

The anticipated modal share for the Cherrywood SDZ has been developed using outputs from the 2043 ERM. Figure 4-4 and Figure 4-5 illustrate the AM modal split for both the Base and Amendment Scenarios.

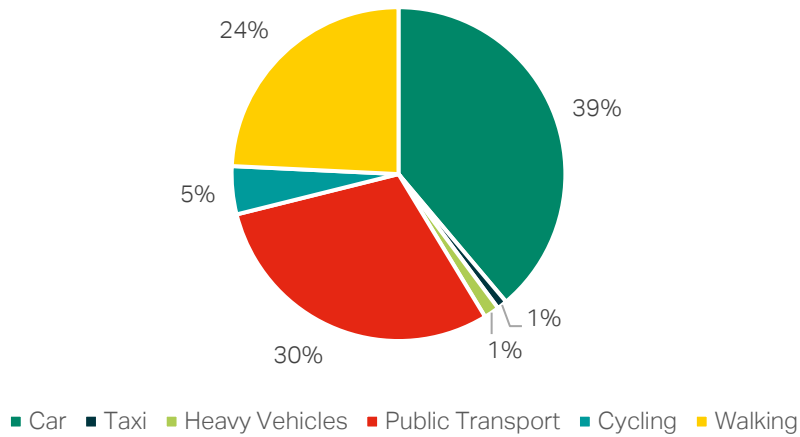


Figure 4-4: 2043 AM Base Scenario Modal Split

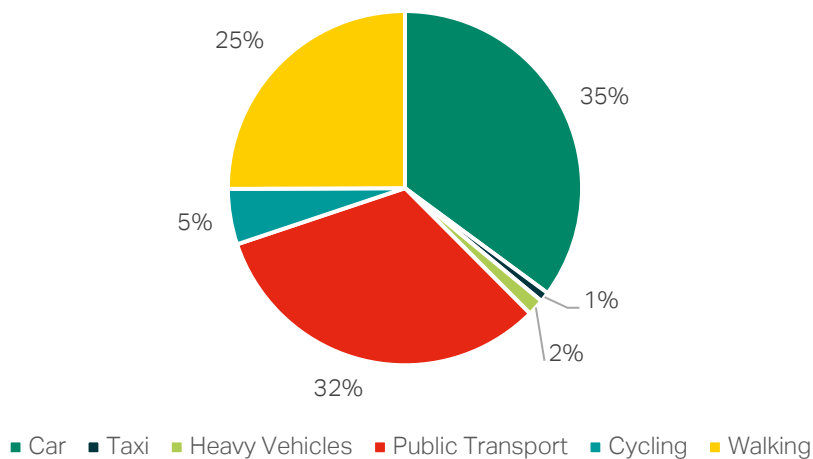


Figure 4-5: 2043 AM Amended Scenario Modal Split

As illustrated in Figure 4-4, it is anticipated that Cherrywood SDZ will achieve its target modal split of 39% trips by car in the 2043 Base Scenario with the remainder being undertaken using more sustainable modes. However, Figure 4-5 illustrates that, despite the increase in total trips in the Amendment Scenario, the mode share of cars decreases to 35%, as the majority of these new trips will be undertaken using sustainable modes, as demonstrated Section 4.2.1

Notably, active travel modes account for approximately 30% of all trips in comparison to the target of 20%.

4.2.3 Origins and Destinations

Table 4-7 shows the anticipated origins of daily trips to the Cherrywood SDZ study area in 2043. This tables demonstrate that Dún-Laoghaire Rathdown is the largest origin in both the Base (55.4%) and Amendment (56.1%) Scenarios for the Cherrywood SDZ. Wicklow is the second largest origin for trips in the Base (25.7%) and the Amendment (24.3%) Scenarios, while Dublin City is the third largest origin in both scenarios (6.7% in the Base Scenario and 7.2% in the Amendment Scenario). Other counties which all account for less than 15% of origins and destinations each are South Dublin, Fingal and Kildare.

Table 4-7: 2043 ERM trips by origins to the study area

Resident Destination (Education)	Base Scenario		Amendment Scenario	
	Number of Trips (Daily)	Percentage of Trips	Number of Trips (Daily)	Percentage of Trips
Dún-Laoghaire Rathdown	4,931	55.4%	5,601	56.1%
Wicklow	2,282	25.7%	2,422	24.3%
Dublin City	594	6.7%	715	7.2%

Table 4-8 shows the anticipated destinations of daily trips from the Cherrywood SDZ study area in 2043. This tables demonstrate that Dún-Laoghaire Rathdown is the largest destination in both the Base (69.4%) and Amendment (69.3%) Scenarios for the Cherrywood SDZ. Dublin City is the second largest destination for trips in the Base (14.6%) and the Amendment (14.4%) Scenarios, while Wicklow is the third largest destination in both scenarios (5.7% in the Base Scenario and 5.7% in the Amendment Scenario). Other counties which all account for less than 12% of origins and destinations each are South Dublin, Fingal and Kildare.

Table 4-8: 2043 ERM trips by residents of the study area

Origin (Education)	Base Scenario		Amendment Scenario	
	Number of Trips (Daily)	Percentage of Trips	Number of Trips (Daily)	Percentage of Trips
Dún-Laoghaire Rathdown	2,756	69.4%	3,090	69.3%
Dublin City	581	14.6%	640	14.4%
Wicklow	226	5.7%	253	5.7%

5. Roads Infrastructure

This section provides an overview of the existing Cherrywood SDZ road infrastructure, identification of future road infrastructure requirements and potential interventions to meet these future requirements.

5.1 Overview of Current Road Infrastructure

The main area of potential concern for Cherrywood development is in terms of accesses to the external road network i.e. the M50 and N11, which are being delivered on a phased basis. In the absence of delivery of additional access points, the Cherrywood traffic completely depends on the WLR for accessing the external network and the performance of Junction A is a main concern.

Given the status of the planning application of the schemes, it is unlikely that Druid's Glen and Kiltiernan Link Road will be delivered by 2028. Therefore, more detailed analysis of the performance of Junction A has been undertaken in LinSig, assuming both Druid's Glen Road and Kiltiernan Link Road are not open in the short term. Additionally, the 2028 Base Scenario assumes the mode share for Cherrywood is based on ERM outputs (57% car/43% Non-Car modes).

The operational assessment of Junction A has been assessed for the Base Scenario, outlined above. The AM peak hour was found to carry the highest passenger demand and was therefore used as the basis for the assessment.

Table 5-1 summarises maximum Degree of Saturation (DoS) modelled at the junction for the AM peak.

Table 5-1: Junction A Capacity Analysis

Scenario	Am Peak Maximum Degree of Saturation (DoS)
Base Scenario	108.50%

The analysis indicates that Junction A will operate overcapacity in the Base Scenario (maximum DoS 108.5%). This capacity pressure is anticipated for a short period of time, it should be noted that within the DMURS Guidelines that the capacity thresholds cannot always be achieved in urban areas and that "In areas ...such as in Neighbourhoods and Centres ...junctions may have to operate at saturation levels for short periods...".

The operational assessment of Junction A for the 2028 Base Scenario indicates that Junction A will operate overcapacity with a maximum DoS of 108.5%. This is based on the assumed mode share for Cherrywood as stated in the ERM outputs (57% car/43% Non-Car modes).

However, following the implementation of measures as outlined in the Planning Scheme it is anticipated that a Non-Car target mode share of 53% will be achieved. Additionally, the implementation of these measures along with the implementation of stricter parking standards in line with the proposed amendment to the Planning Scheme are anticipated to result in an overall Non-Car target mode share of 66%. If the Non-Car mode share of 66% is achieved, Junction A will operate with a maximum DoS of 79.9% in the 2028 Base Scenario.

5.2 Impact of Land-Use Changes

As outlined in Section 4.2, the 2043 ERM outputs were interrogated to determine the AM peak trip generation, modal split and origin-destination pairs in both the Base and the Amendment Scenarios. The 2043 ERM applied the outputs from these to the adjoining road network and the results of this are illustrated in Figure 5-1 and Figure 5-2. These images illustrate the ratio of flow to capacity for each link on the network. Links labelled with a number less than 100 are operating within their theoretical capacity and links labelled greater than 100 are operating over capacity. Further visual aids are provided within the images, with thicker lines illustrating links with a high ratio of flow to capacity.

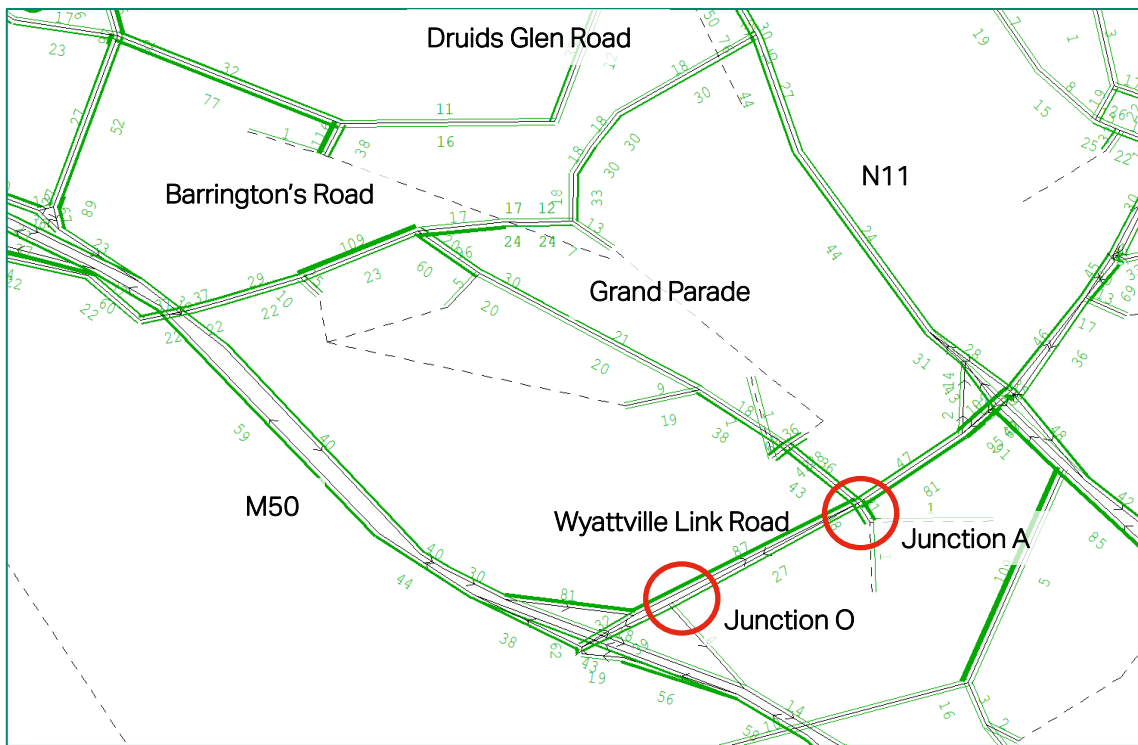


Figure 5-1: Network Performance 2043 ERM Base Scenario

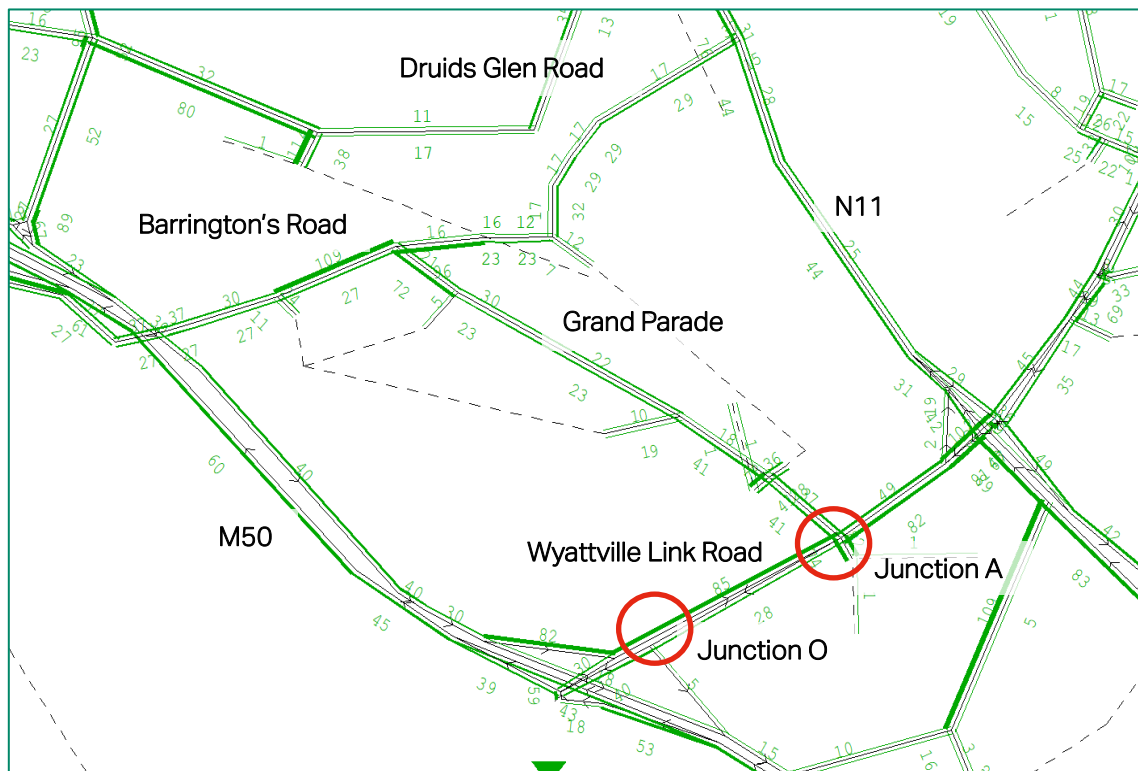


Figure 5-2: Network Performance 2043 ERM Amendment Scenario

Examination of the 2043 ERM has found that within the Cherrywood SDZ, the Wyattville Link Road will be operating at close to its theoretical capacity in both the Base and Amendment Scenarios. It was also found that Barrington's Road from the Kiltarnan Link Road will be operating over capacity in both the Base and Amendment Scenarios.

On the external road network, it was found that the M50 southbound off-ramp at Junction 16 will be operating at close to its capacity in both scenarios. It was also found that the N11 northbound will be operating at close to its theoretical capacity in both scenarios.

A difference plot has been developed to illustrate the impact of the Amendment on the road network adjoining the Cherrywood SDZ. This is presented in Figure 5-3.

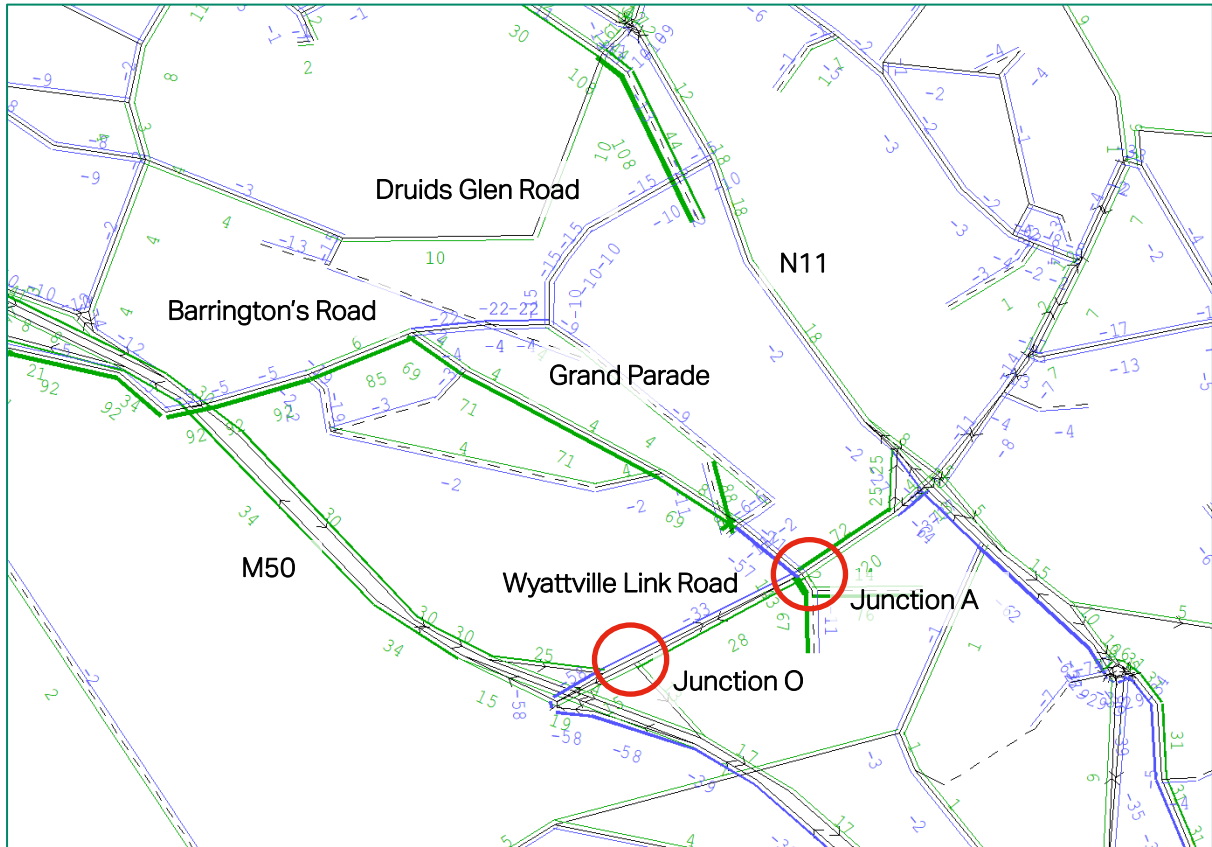


Figure 5-3: 2043 ERM Network Performance Difference Plot (Amendment-Base)

Figure 5-3 illustrates the change in vehicle numbers on each link as a result of the Amendment Scenario. The M50 southbound off-ramp at Junction 16 will experience an increase of 25 vehicles. Other links, such as Wyattville Link Road will experience changes in vehicle numbers of between -33 and 72 vehicles.

5.2.1 WLR / Tullyvale Road Junction (Junction A)

Given the operational performance of Junction A in 2028, more detailed analysis of the performance of the junction has been undertaken in LinSig, for both the 2043 Base Scenario and the Amendment Scenario. The AM peak hour was found to carry the highest passenger demand and was therefore used as the basis for the assessment.

Table 5-1 summarises maximum Degree of Saturation (DoS) modelled at the junction for the AM peak.

Table 5-2: Junction A Capacity Analysis

Scenario	Am Peak Maximum Degree of Saturation (DoS)
Base Scenario	170.4%
Amendment Scenario	172.6%

As demonstrated in Table 5-2, it is anticipated that Junction A will be operating over its theoretical capacity in 2043 in both the Base and Amendment Scenarios. In both scenarios, Junction A will be operating at approximately 70% over capacity resulting in significant approach queue lengths on Wyattville Link Road.

Junction A is located approximately 300m from the N11 and 700m from the M50. Examination of the LinSig model found that the mean max queue on Wyattville Link Road is approximately 1,648m towards the N11 and 888m towards the M50 in the Base Scenario. In the Amendment Scenario, the mean max queue will increase to 1,729m towards the N11 and to 951m towards the M50.

However, it should be noted that the whilst the proposed land-use mix changes are resulting in changes to the mean max queue length, the change in queue length is approximately 5% of the Base Scenario queue towards the N11 and 7% of the Base Scenario queue towards the M50. There is also minimal impact to the overall operation of Junction A.

5.3 Mode Share Sensitivity

As part of Cherrywood TCE review, AECOM projected an expected car/non-car mode share of 34%/66% for Cherrywood considering stricter parking policy changes. However, the latest 2022 census estimated car/non-car mode share split of 63%/37% Cherrywood. Therefore, a mode share sensitivity analysis was undertaken to review the performance of Junction A. This sensitivity analysis utilised a median mode share of 49%/51% for car/non-car between the Census and projected. Table 5-3 below presents a summary of the mode shares considered.

Table 5-3: Existing and proposed mode shares for Cherrywood SDZ

Mode	2022 Census	With Stricter Parking Standards	Median
Car	63%	34%	49%
Non-car	37%	66%	51%

The performance of Junction A has been tested for the 2043 Cherrywood Amendment scenario with the median mode share in LinSig software. Cherrywood traffic flows at Junction A were adjusted in line with the median mode share and strategic flows along the Wyattville Link Road were retained, as in the original 2043 ERM.

Table 5-4 summarises maximum Degree of Saturation (DoS) modelled at the junction for the AM peak.

Table 5-4: Junction A performance indicator comparison

Scenario	Am Peak Maximum Degree of Saturation (DoS)
Base Scenario	170.4%
Amendment Scenario	172.6%
Mode Share Sensitivity Scenario	214.6%

As demonstrated in Table 5-4, it is anticipated that Junction A will be operating over its theoretical capacity in 2043 in both the Base and Amendment Scenarios. The mode share sensitivity analysis demonstrates that in this scenario, Junction A will be operating at approximately 115% over capacity resulting in significant approach queue lengths on Wyattville Link Road.

5.4 Options for Improving Junction A Performance

A number of measures have been identified which may improve the future performance of Junction A. Subject to observance of the Spatial Planning and National Roads Guidelines for Planning Authorities (DoECLG, 2012) and compliance with TII Publications or DMURS as appropriate, these measures are:

- Filtered permeability/traffic management solutions.
- Signal optimisation.
- Amendments to the geometry of Junction A, including:
 - Provision of slip lanes.
 - Reducing overall junction size.
- Optimising other junctions on Wyattville Link Road, including Junction O.
- Completion of Grand Parade which may reduce pedestrian stages at Junction A.
- Behavioural change measures such as provision of wayfinding signage to key destinations with walking and cycling times.
- Adjusted car-parking standards.

6. Parking

This section provides an overview of the existing Cherrywood SDZ parking facilities, analysis of future parking requirements and proposed interventions to meet these future requirements.

6.1 Current Parking Provision

6.1.1 Residential Parking Standards

Updates to the Cherrywood SDZ Planning Scheme's car parking standards were adopted in January 2020 as per Amendment No.6. 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. Amendment No.6 was proposed to encourage further use of sustainable transport modes within Cherrywood SDZ.

AECOM were commissioned by DLRC to undertake a review relating to the level of parking provision provided within the Cherrywood Strategic Development Zone (SDZ). Following this review, it was recommended that a reasonable rationale exists for a reduction in parking standards across all housing typologies. The Cherrywood Residential Car Parking Amendment was submitted to An Bord Pleanála (Amendment No 9) and was approved on 22nd November 2024.

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

6.1.2 Non-Residential Parking Standards

The Planning Scheme currently outlines bespoke non-residential parking standards in relation to three land use types including:

- High Intensity Employment.
- Education.
- Retail.

Currently parking standards relating to the non-residential land use types not listed above are deferred to the standards as outlined in the DLRC County Development Plan (CDP). Further details on non-residential parking provision are outlined in Appendix B.

6.2 Proposed Parking Provision

6.2.1 Non-Residential Parking Standards

AECOM were commissioned by DLRC to provide technical advice relating to non-residential parking standards 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 shift in national and local policy, climate targets as well as the DLRC County Development Plan, 2022 - 2028.

The revised standards are considered as maximum standards, with no further reduction permitted. This will ensure that appropriate monitoring is undertaken to manage the impacts of the revised standards,

in tandem with the delivery of sustainable infrastructure and public transport services. The proposed revised standards are outlined in Table 6-1.

Table 6-1: Proposed Amendments to Car Parking Standards

Land Use Type	Current Cherrywood Parking Standard	Proposed Maximum Parking Standard
HIE		
Office	1 per 100 sqm	1 per 140 sqm
Industry	1 per 200 sqm	1 per 280 sqm
Retail		
Food Retail	1 per 20 sqm	1 per 35 sqm
Non-Food Retail	1 per 50 sqm	1 per 85 sqm

It should be noted that, at the time of writing, the Cherrywood Non-Residential Car Parking Amendment was submitted to An Bord Pleanála (ABP) on the 29th of November 2024, however at the time of writing no decision has been made on this application.

6.3 Impact of Land-Use Changes

It has been assumed that the additional development in the Amendment Scenario will be developed using the same standards as the rest of the development within the SDZ and as such, the additional residential and non-residential development will necessitate the provision of car parking in line with the standards applied for the rest of the SDZ.

Whilst the Amendment Scenario generates an additional 2,500 trips in the AM Peak compared to the Base Scenario, the Base Scenario shows that Junction A is already operating significantly above capacity. Therefore, whilst the Amendment Scenario will entail the provision of additional car parking, the emphasis should be on encouraging trips to use public transport and active modes. This is largely reflected in the modelling outputs; as a result of congestion on the highway network pushing the majority of additional trips in the Amendment Scenario to the less congested public and active transport networks¹.

It is therefore recommended that parking standards and the approach to parking provision within the Cherrywood SDZ are reviewed regularly to ensure that the parking standards remain appropriate to achieve ambitious modal split targets.

There are a number of international examples of alternative approaches to parking management in large developments, similar to Cherrywood. One such example from Vauban, Freiburg, Germany is presented in the following case study.

¹ Of the additional 2,500 trips in the Amendment scenario, only 230 are forecast to use the car compared to 1,300 trips using public transport and 1,000 trips using active modes.

Limiting Car Parking Case Study: Vauban, Freiburg, Germany

Vauban is a sustainable district located in Freiburg, Germany. Built on the site of a former French military base, it is renowned for its innovative approach to urban planning, emphasising car-free living and environmental sustainability. A specific traffic concept was designed including a car-free approach and alternative mobility, supported by low energy houses and a central market-place and a community centre.

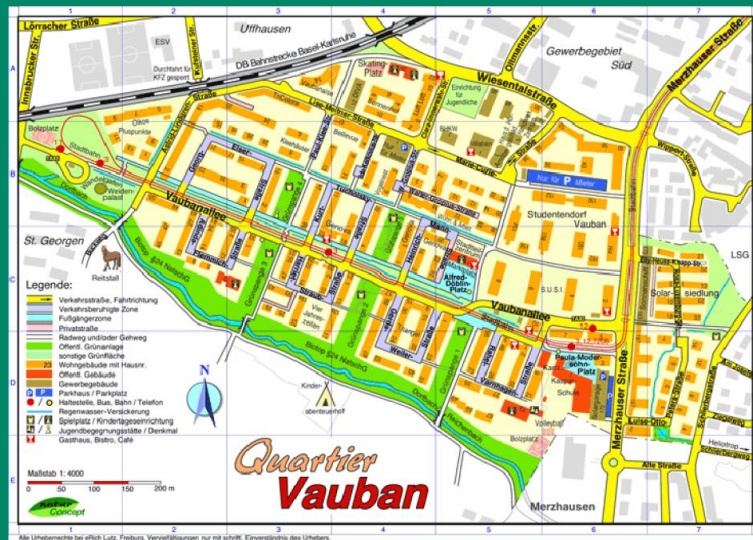


Figure 6-1: Masterplan of Vauban in Freiburg, Germany

The district is served by a central avenue, the Vaubanallee, running east – west through the centre of the district which connects into the main strategic arterial route and light rail corridor into Freiburg. Parking is only allowed on Vaubanallee, in part to support retail enterprises along this main street. Otherwise, residents who do own cars are required to park them in one of the two garages, which are located at the northern and eastern edges of the district. Both garages are covered by arrays of photovoltaic panels producing significant amounts of electricity.

Subsequently, parking is not allowed in front of dwellings on the narrow residential streets, supported by a policy where residents agree that they do not and will not own a car however Vauban must certify that there is land dedicated to parking if the resident chooses to own a car, such as the garages. This is achieved through the “Vauban Club for Car-Free Living” where a member signs a commitment to remain car-free and pays a membership fee of €3,700. If the members of the club decide later to purchase a car, they must pay more than €15,000 to the Club, which is the cost of constructing a parking space in one of the garages. The penalty for purchase of a car without notifying the city can be as high as €100,000.

Car-free residents can, however, have access to cars when they need them by becoming members of the “Freiburger Auto Gemeinschaft”, a car sharing club which makes available five cars and a van parked in one of the district’s garages. Club members also receive a free pass for all forms of public transit in Freiburg and as well as a Bahncard giving them 55% off on every train ticket, making public transit even more attractive and affordable.

To aid in a car free environment, the district is a high-density, compact, mixed-use community equivalent to a 10-minute neighbourhood. Walking and cycling routes are given preference within the district over typical car dominated streets, with many areas inaccessible to cars. For external connections a light rail service provides access to the wider Freiburg areas, with the light rail stations providing interchange connections to bus or heavy rail routes.

7. Public Transport Network

This section provides an overview of the existing Cherrywood public transport network, analysis of future public transport requirements and proposed interventions to meet these future requirements.

7.1 Overview of Current Public Transport

A detailed review of current public transport provision within Cherrywood SDZ was undertaken.

The Cherrywood area is currently served by five bus routes, namely 7, 45, 84, 145 and 155. Routes 45, 145 and 155 operate on the N11 Core Bus Corridor (CBC) in the morning peak, with headways between 10 and 20 minutes. Route 84 has three services in the morning peak. Route 7 has six services between Cherrywood and the Loughlinstown area as well as Dublin City Centre, through Dún Laoghaire.

The DART stations closest to Cherrywood are at Killiney and Shankill, at approximately 2.5km. These provide access to a high frequency rail service to the Dublin City Centre. However, DART is not expected to have significant public transport market share in Cherrywood.

Several Luas stops along the Green Line, are currently located within Cherrywood, including:

- Carrickmines.
- Brennanstown².
- Laughanstown.
- Cherrywood.
- Brides Glen.

These stations were developed as part of the Luas B1 Cherrywood project, completed in October 2010. The B1 project was developed to expand Luas services to Cherrywood to cater for future demand resulting from planned and ongoing development. The project included a 7.5km extension of the Green Line from Sandyford to Cherrywood and the addition of 11 new stops.

The Luas Green Line operates on a three-to-five-minute headway in the morning peak, catering for around 4,200 passengers in the Cherrywood area. The capacity pinch point on the LUAS in the AM peak occurs at the Central Park stop. At this stop there is spare capacity for 1,498 passengers on the Luas in 2028. Further details of this review and the current public transport provision are contained in Appendix C.

7.2 Projected Future Provision

The Cherrywood SDZ Planning Scheme projects that by 2030, 41% of Cherrywood residents will travel to work to centres to the north served by Luas.³ Only 14% of trips to employment in Cherrywood will originate from centres to the north served by Luas and a further 13% will originate from centres to the south assuming Luas / BRT is extended to Bray.

7.2.1 Bus Transport

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, 49% of Cherrywood residents will travel to work in centres not served by Luas by 2030 and 64% of trips to employment in Cherrywood will originate from external centres not served by Luas.⁴

According to the Cherrywood SDZ Planning Scheme, by 2030 approximately eight additional bus trips would be needed during the morning peak to meet the target of 12% of outbound (originating from

² Brennanstown Luas Stop is located within the Cherrywood SDZ, however, at the time of writing it is not in use by Luas services operating along the Green Line.

³ Based on the NTA 2030 Transport Strategy Model

⁴ Based on the NTA 2030 Transport Strategy Model

Cherrywood) trips by bus. Likewise, an estimated 13 extra bus trips would be required for inbound (ending in Cherrywood) demand.

The DLRCC County Development Plan, 2022-2028, has set a goal of implementing the full Dublin BusConnects programme, including the complete redesign of the bus network and network of core bus corridors on the busiest routes outlined in the GDA Transport Strategy and shown in Figure 7-1.

The E-Spine along the N11 is the most accessible corridor from Cherrywood (see Appendix C 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 Dún 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 7-1: 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, for example 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 7-2) connecting the Dún 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 7-2: 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 Kiltarnan/Glenamuck and the Cherrywood area will depend on demand from the Kiltarnan/Glenamuck region. Therefore, the provision of a dedicated bus lane on the Kiltarnan Link Road will be subject to future review based on the progress of development in the Kiltarnan/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.

7.2.2 Heavy Rail

As shown in Figure 4-3 (Section 4.2.2), future DART share of trips from Cherrywood is estimated to be around 1%. The DART will mainly serve the few people living or working close to the two stations closest to Cherrywood, while Luas and bus services will be responsible for most public transport trips to and from Cherrywood due to their extensive coverage and accessibility.

7.2.3 Light Rail

For 2030 Luas ridership, the Planning Scheme projects that there will be enough demand to achieve the target of 25% of outbound 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.

The GDA Transport Strategy, the NDP 2018-2027, and the NDP 2021-2030 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 DLRCC 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 2030s.
- 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 Bride's Glen to Bray as shown in Figure 7-3 will enhance connectivity to the south. 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 7-3: GDA Transport Strategy – Proposed Luas Network

It should also be noted that it is assumed that the Brennanstown Luas Stop will be in use by Luas services operating along the Green Line.

7.3 Impact of Land-use Changes

7.3.1 Bus Transport

As described in Section 7.2.1, the DLR County Development Plan, 2022-2028, has set a goal of implementing the full Dublin BusConnects programme, including the complete redesign of the bus network and network of core bus corridors on the busiest routes outlined in the GDA Transport Strategy.

Within the Cherrywood area, the BusConnects programme includes the E-Spine along the N11 providing access to the Dublin City Centre from Bray, and the L22 service which is a bus priority route from Dún Laoghaire to Cherrywood.

The E-Spine routes and the L22 service, along with associated bus stops, included in the 2043 ERM are illustrated in Figure 7-4.

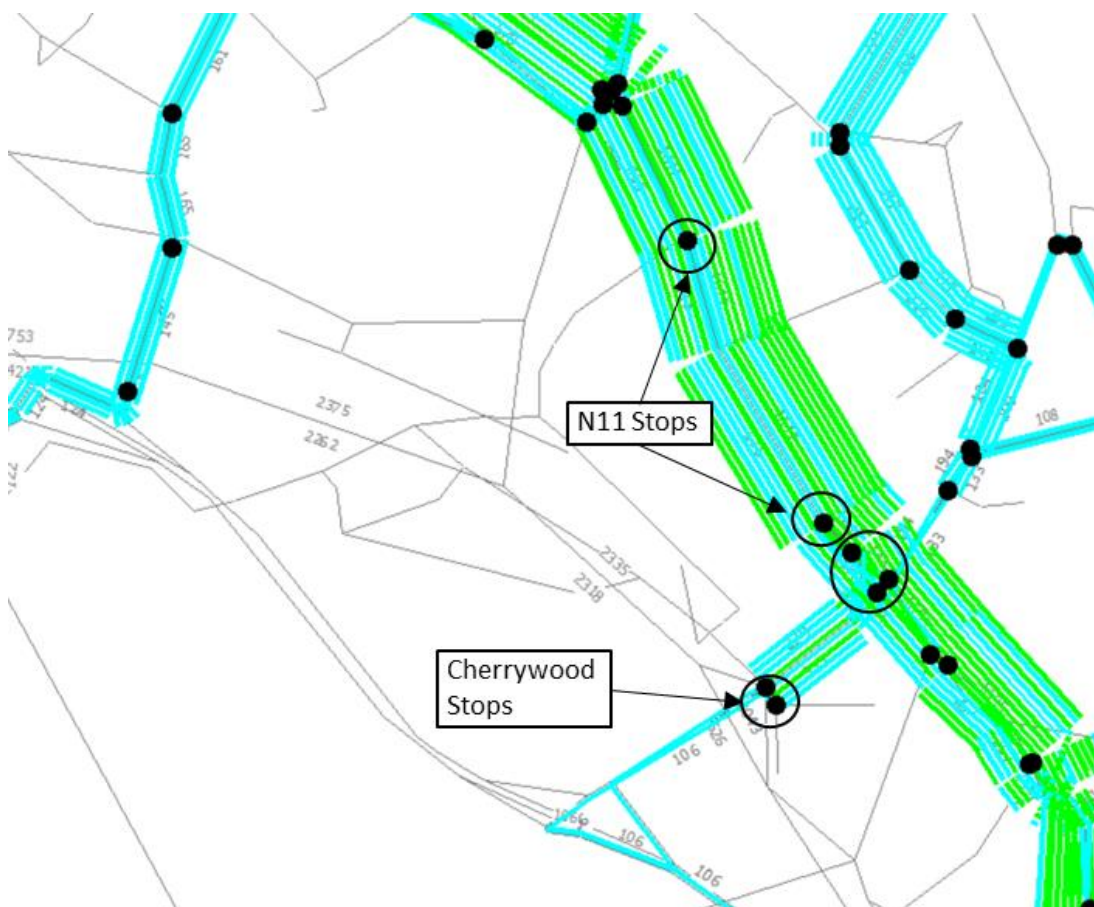


Figure 7-4: ERM 2043 Cherrywood Bus Routes and Stops

Given the wide distribution of origin and destinations both to and from the Cherrywood SDZ, and the limited corridor served by Luas Green Line, the bus services will perform a key role in responding to public transport demand.

Analysis of public transport demand was undertaken to understand the forecast demand accommodated by the bus services. Figure 7-5 and Figure 7-6 summarises the Cherrywood bus patronage in peak hours and are based on a low frequency service which serves the town centre only.

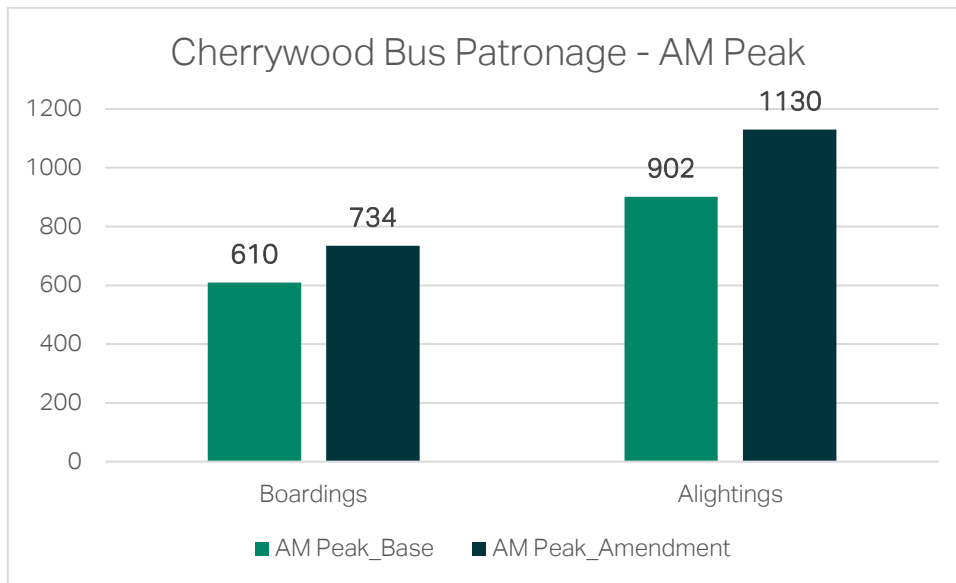


Figure 7-5: ERM 2043 Cherrywood AM Peak Hour Bus Patronage

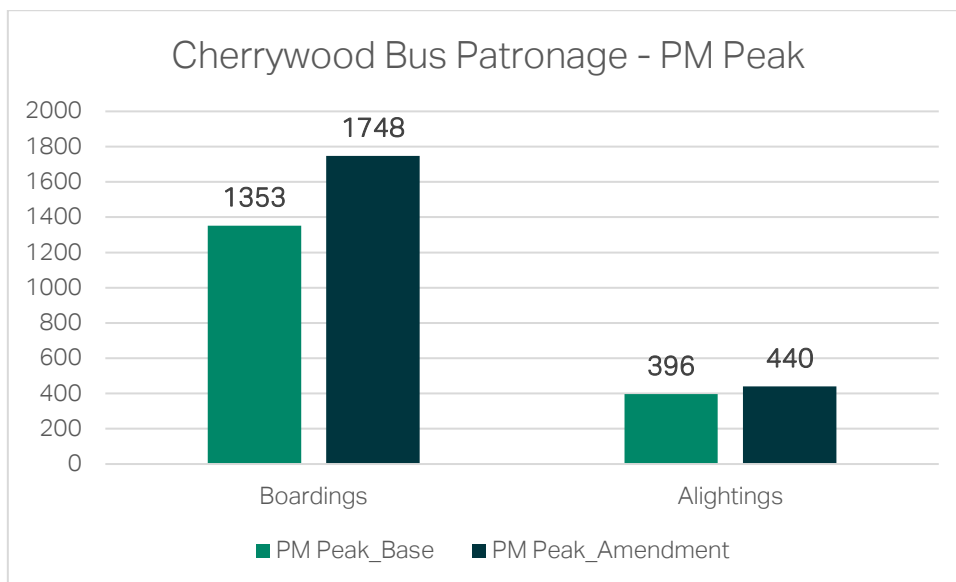


Figure 7-6: ERM 2043 Cherrywood PM Peak Hour Bus Patronage

In 2043, the maximum number of bus movements (combination of boardings and alightings) in Cherrywood, in the AM peak hour, is approximately 1,500 passengers in the Base Scenario, and increases to approximately 1,860 passengers in the Amendment Scenario. In the PM peak hour, the maximum number of bus movements in Cherrywood is approximately 1,750 passengers in the Base Scenario and increases to approximately 2,190 passengers in the Amendment Scenario. Given the wide distribution of origin and destinations both to and from Cherrywood this would be a conservative forecast and could be improved through increasing the frequency of services through Cherrywood.

Further analysis of the capacity of the N11 bus network was assessed against forecast passenger demand extracted from the NTA ERM. The northbound direction was found to carry the highest passenger load and was therefore used as the basis for the assessment. The results of this assessment are presented in Figure 7-7.

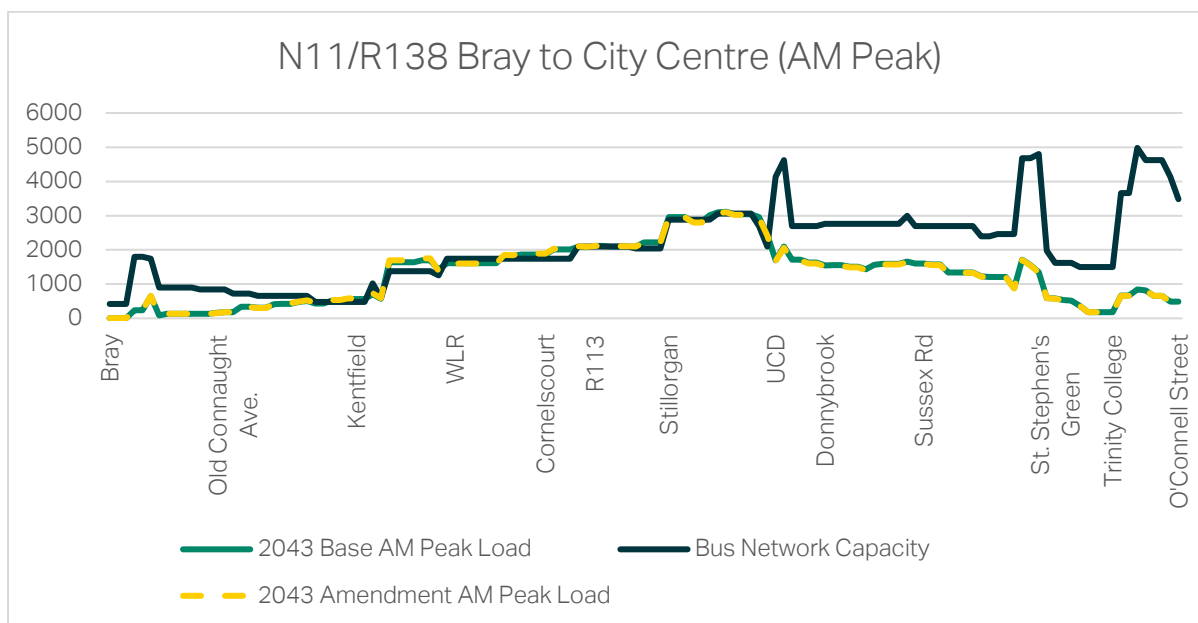


Figure 7-7: Bus Capacity Analysis

As outlined in the Figure 7-7 above, the bus routes on the N11 will be operating at capacity in 2043 in both the Base and Amendment Scenarios. Various sections of the N11 from the Wyattville Link Road to UCD will be alternating between operating under capacity and overcapacity. However, it should be noted that the changes associated with the Amendment Scenario are minimal.

7.3.2 Light Rail

To understand the capacity of the Luas system, outputs from the NTA's ERM were used to inform demand in tandem with capacities for the Luas Green Line.

The GDA Transport Strategy, the NDP 2018-2027, and the NDP 2021-2030 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. The proposed extension of the Luas Green Line on its south end, from Bride's Glen to Bray, which will enhance connectivity to the south is included in the 2043 ERM.

The assumed operating capacity of the Luas Green line in 2043 AM peak hour is shown in Table 7-1.

Table 7-1: Luas Green Line Capacity in 2043 AM Peak Hour

Luas Section	Trams Capacity (passengers)	Service Frequency	Capacity
GPO <> St Stephen's Green	408	20 services / hour	8,160
St Stephen's Green <> Charlemont	408	24 services / hour	9,792
Charlemont <> Sandyford	408	30 services / hour	12,240
Sandyford <> Brides Glen	408	20 services / hour	8,160
Brides Glen <> Bray Interchange	408	10 services / hour	4,080

Source: Based on 2043 NTA ERM

The capacities presented in Table 7-1: Luas Green Line Capacity in 2043 AM Peak Hour were assessed against forecast passenger demand extracted from the NTA ERM. The northbound direction was found to carry the highest passenger load and was therefore used as the basis for the assessment.

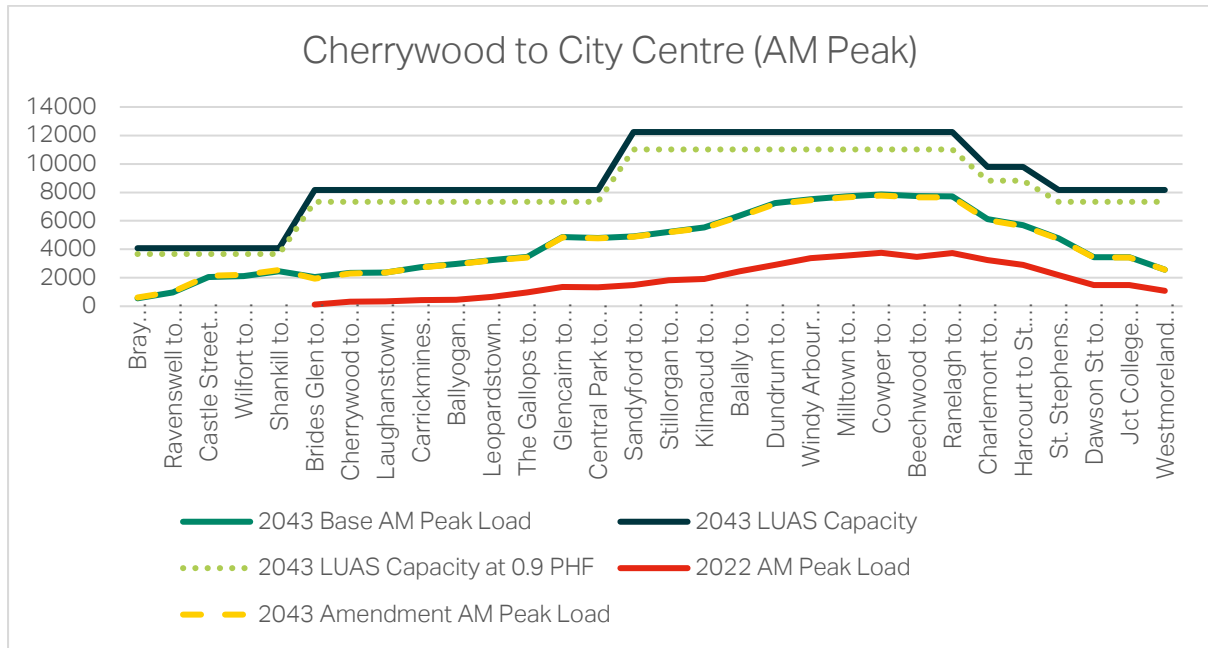


Figure 7-8: Luas Capacity Analysis

As outlined in the Figure 7-8 above, there is spare capacity for 1,100 passengers on the Luas in 2043 in both the Base and Amendment Scenarios.

8. Active Travel Facilities

This section provides an overview of the existing Cherrywood active travel facilities, analysis of future active travel requirements and proposed interventions to meet these future requirements.

8.1 Current Active Travel Provision

A detailed review of current active travel provision within Cherrywood SDZ was undertaken.

It was found that the overall standard of active travel facilities within Cherrywood is very good, however, a number of issues were identified. These include vehicles parking within cycle lanes, continuity of facilities, and transitions from one facility type to another.

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

- Segregated one-way cycle lanes and footways on Wyattville Road, crossing the N11 to Wyattville Link Road up to the 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 on the N11 between the Wyattville interchange and the Johnstown Road junction (Kilbogget and Shanganagh Vale).

In total, 17 cycle parking locations have been identified within the Cherrywood town centre and the High Intensity Employment areas. There is a mix of sheltered parking which is suitable for long-duration parking and unsheltered which is suitable for short-duration parking.

Further details of this review and the current active travel provision are contained in Appendix D.

8.2 Projected Future Active Travel Provision

The Cherrywood SDZ Planning Scheme 2030 model data indicates that 23% of future trips to work originating from Cherrywood will be less than 5km and a further 27% will be between 5km and 10km.

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

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 8-1 (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 Stepside 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.

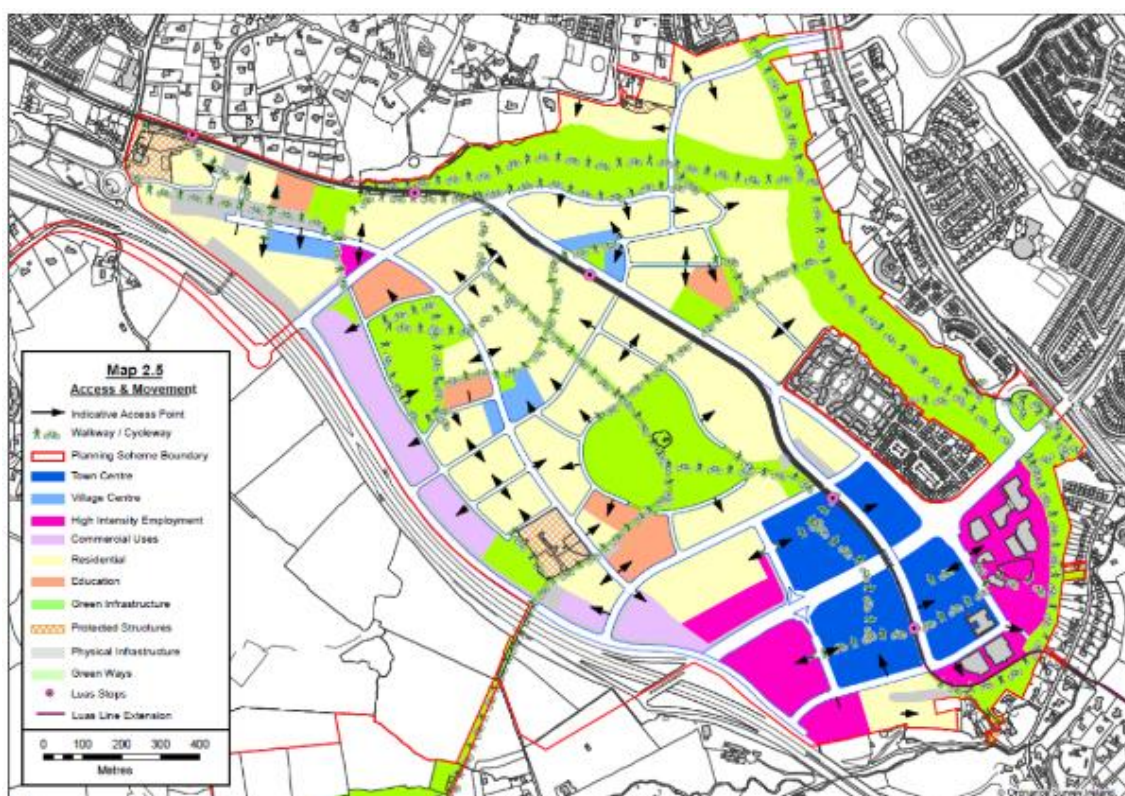


Figure 8-1: Access and Movement Strategy

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 8-2.

The proposed Network is based on the preliminary routing indicated in the Cherrywood SDZ, extending for approximately 6km. 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.

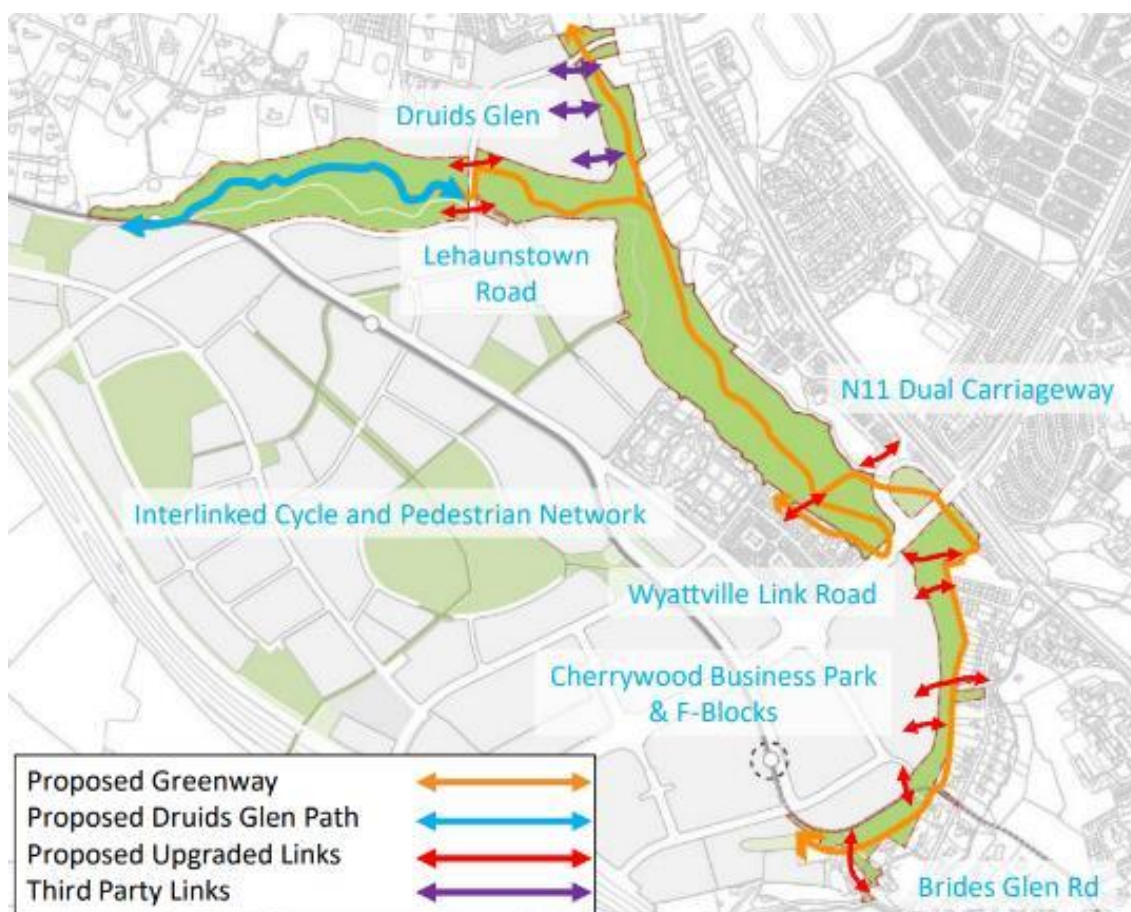


Figure 8-2: Proposed Green Routes Network

The proposed scheme will link into various existing and future pedestrian and cycle facilities, as set out in Figure 8-3 including:

- 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.
- Druid's Glen Viaduct.

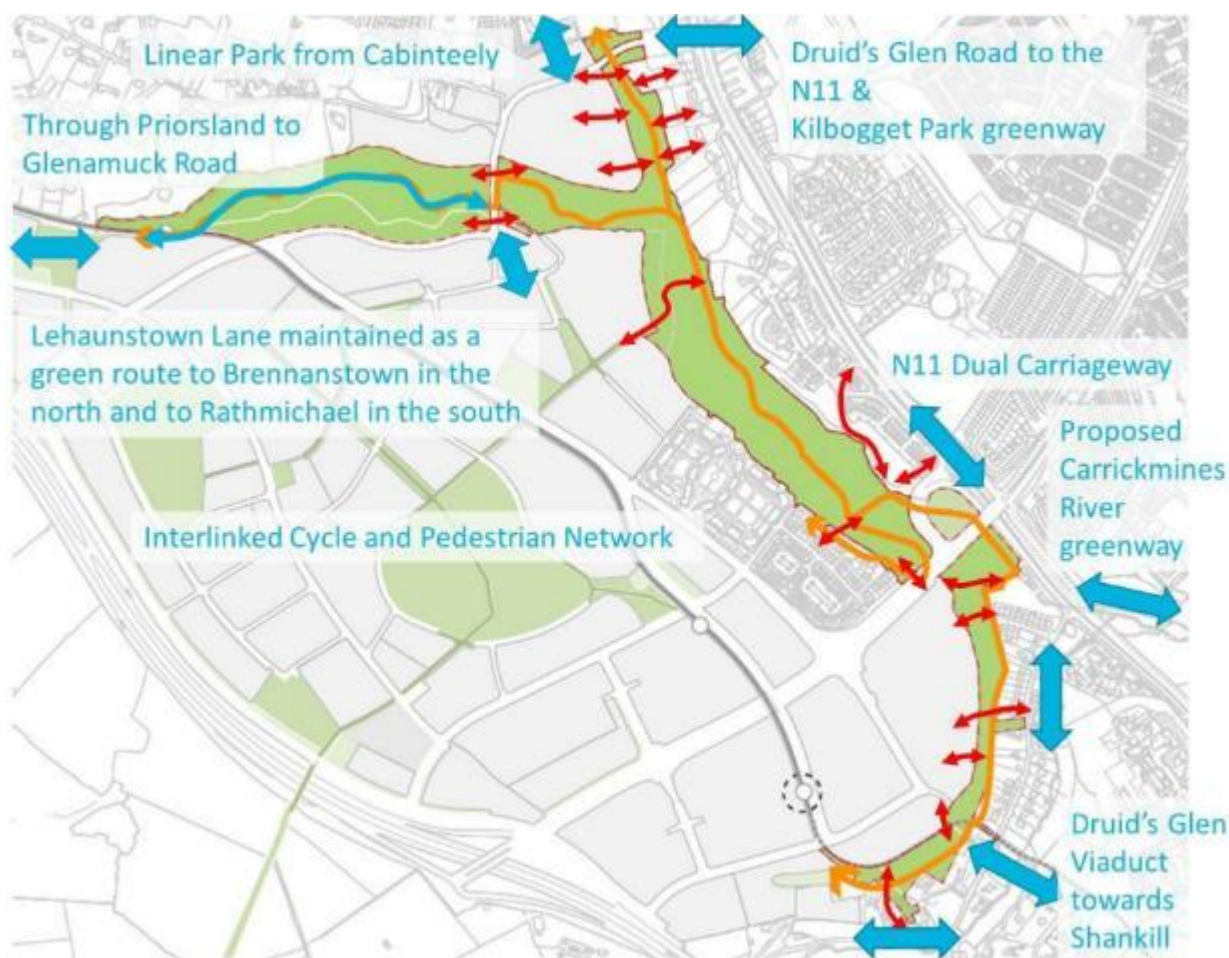


Figure 8-3: Proposed Green Routes Network – Linkages to Wider Active Mode Infrastructure

8.3 Impact of Land-use Changes

To understand active travel needs within Cherrywood in 2043, the NTA's ERM was used to inform demand. It was found that the active travel accounts for 5,226 trips during the AM peak in the Base Scenario. This comprises 4,384 walking trips and 842 cycling trips. The total number of active travel trips increases by 1,002 trips to 6,228 during the AM peak in the Amendment scenario, comprising 5,180 walking trips and 1,048 cycling trips.

Based on current and proposed active travel facilities within Cherrywood Town Centre, the SDZ and the surrounding area, it is determined that the facilities are adequate to accommodate these additional trips.

8.4 Options for Meeting Needs

Subject to observance of the Spatial Planning and National Roads Guidelines for Planning Authorities (DoECLG, 2012) and compliance with TII Publications or DMURS as appropriate, the following measures have been identified for meeting active travel needs:

- Wyattville Link Road Crossings.
- Pedestrian and Cycle facilities on both sides of Wyattville Link Road.

8.4.1 WLR Crossings

The R118 Wyattville Link Road in its current configuration is a hostile environment for active travel users. This link features high vehicle speeds and long, indirect crossings which may deter pedestrians and cyclists from crossing the R118 Wyattville Link Road. One of the key measures required to encourage active travel within the Cherrywood Town Centre is providing additional pedestrian crossing facilities of the R118 Wyattville Link Road as well as the provision of new crossings at suitable locations.

The proposed crossings of the R118 Wyattville Link Road within the Cherrywood Town Centre, and the order in which these should be delivered are:

1. Junction A Crossing.
2. Junction O Crossing.
3. Grand Parade Bridge.
4. Main Street Bridge.

The provision of the active travel crossing at Grand Parade is required as soon as possible to address severance issues within the existing Cherrywood Town Centre. The provision of this crossing may also provide operational improvements to Junction A for vehicular traffic by attracting active travel users away from Junction A, resulting in less frequent pedestrian stages within each traffic signal cycle, resulting in more time being available for vehicular traffic.

It should be noted that whilst the above order for delivery of active travel crossings is recommended, an alternative approach of delivery of these crossings in tandem with adjoining or relevant parcels of development is also an appropriate order for delivery. Further details on these crossings are provided in the following subsections.

Junction A Crossing

Junction A is an existing signal-controlled junction which comprises Wyattville Link Road, Cherrywood Avenue and Valley Drive. It features staggered pedestrian crossings on all arms. Cyclist crossing facilities vary, with three arms utilising shared surfaces and toucan crossings. Crossing facilities on the remaining arm are unclear and may result in cyclists mixing with vehicular traffic through the junction. Measures should be provided at this junction to segregate cyclists from vehicular traffic on all arms. Additionally, signal timings should be examined to determine if enhancements to pedestrian crossing times are possible. Any proposed changes should be cognisant of traffic impacts associated with signal timing changes and should balance the needs of all users.

Grand Parade Bridge

Within the existing Town Centre, Grand Parade runs in a north-south direction from Cherrywood Avenue in the south to Tully Vale Road in the north. Grand Parade comprises wide footpaths, cycle lanes and a narrow carriageway for vehicular traffic. It is constructed on an existing podium, however, Grand Parade terminates at the Wyattville Link Road and no continuity of services for active travel and vehicular users is provided across Wyattville Link Road. The bridge connection linking Grand Parade on either side of Wyattville Link Road should be progressed in line with the thresholds identified in Section 10.

Junction O Crossing

Junction O is an existing left-in, left-out, priority-controlled junction which comprises Wyattville Link Road and Cherrywood Avenue. No crossing facilities are currently provided on any arms for pedestrian or cyclists. Active travel crossing facilities should be provided at this junction. Any proposed changes to the operation of the junction should be cognisant of traffic impacts associated with these changes and should balance the needs of all users.

Main Street Bridge

The proposed Town Centre Amendment includes a new active travel bridge crossing the Wyattville Link Road between Grand Parade and Junction O. The new bridge connection should be progressed in line with the thresholds identified in Section 10

8.4.2 Pedestrian and Cycle facilities on both sides of Wyattville Link Road

The Wyattville Link Road is a key link joining the M50 to the N11, and runs in a northeast-southwest direction, through the Cherrywood Town Centre. The R118 Wyattville Link Road is a hostile environment for active travel users, with limited at-grade crossing opportunities. Therefore, it is important that two-way movements for all active travel users are facilitated on both sides of the Wyattville Link Road.

9. Complementary Measures

In addition to the measures identified in previous sections, a range of further measures, which can contribute to the overall safety and sense of place of the road network, as well as encouraging the use of more sustainable travel modes have been identified. These measures are summarised in the following sub-sections:

9.1 Speed Limits

As stated in the Dún Laoghaire-Rathdown County Council Road Traffic Special Speed Limit Bye-Laws 2024, 30 km/h shall be the speed limit for mechanically propelled vehicles on public roads located within the boundary of Dún Laoghaire-Rathdown County Council's administrative area. This shall apply to roads located within the Cherrywood Town Centre Environment (Bishop Street and Grand Parade), except roads identified within the Third Schedule (Beckett Road and Cherrywood Avenue). Any changes to speed limits will be determined as part of future county speed limit reviews.

9.2 Transition Zones

The provision of transition zones shall be guided by TII document "DN-GEO-03084 - The Treatment of Transition Zones to Towns and Villages on National Roads". A transition zone is a zone used to highlight a change from rural to urban environment. They use a range of measures such as speed limit reductions and visual indicators such as planting of trees to emphasise a change in environment and to encourage driver behaviour more appropriate to the new environment. Transition zones shall be used on Wyattville Link Road to encourage lower vehicular speeds through Cherrywood Town Centre by the use of appropriate traffic calming and sense of place techniques.

9.3 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.

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 comprising 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. It should be noted that change of use would require consultation with both NTA and TII.

9.4 10-Minute Settlement

The 10-minute settlement 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 10 minutes from the residents' homes. The concept is based on four pillars including proximity, diversity, density and ubiquity.

The consideration of 10-minute settlements 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 10-minute settlements 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 10-minute settlements.

Cherrywood was recognized as a Strategic Development Zone since it was the largest undeveloped area of Dún Laoghaire-Rathdown, located between the M50 and N11 and 8km south of Dún 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 10-minute settlements and notes that whilst all services cannot be within 10 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 Cherrywood, further strengthening the commitment to the ambitious mode share targets for the SDZ.

9.5 Mobility Hubs

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.



Figure 9-1: Example Mobility Hub (source: CoMoUK)

CoMoUK identified key features and characteristics of mobility hubs⁵:

- Co-location of public and shared mobility modes. Shared mobility modes include:
 - 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).
- 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 principles⁶:

- 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.

⁵ CoMoUK, 2019. Mobility Hubs Guidance.

⁶

- 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 9-1.

Table 9-1: Mobility Hubs Benefits and Limitations

Benefits	Limitations/Risks
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Mobility hubs should be maintained and developed continuously to ensure they are effective and maintain interest.
<ul style="list-style-type: none"> • Makes multi-modal journeys more convenient through improved linkages. 	<ul style="list-style-type: none"> • Security risk. As mobility hubs are usually 'open plan', poor security measures could result in theft and vandalism of facilities.
<ul style="list-style-type: none"> • Mobility hubs offer a range of transport modes allowing the user to have a wider choice. 	
<ul style="list-style-type: none"> • Can encourage sustainable modes of transport as a 'first and last mile' option. 	
<ul style="list-style-type: none"> • In many ways, mobility hubs can improve safety for example through improved public realm. 	
<ul style="list-style-type: none"> • Promotes inclusivity through improved accessibility. 	
<ul style="list-style-type: none"> • 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. 	
<ul style="list-style-type: none"> • 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. 	

Two potential locations for mobility hubs have been identified within the Cherrywood Town Centre. These are at the existing Brides Glen and Cherrywood Luas stops. Mobility hubs at these locations could provide modal interchange opportunities for users and encourage greater sustainable travel usage into, out of, and within Cherrywood Town Centre and the wider SDZ.

10. Phasing and Sequencing Recommendations

10.1 Phasing of Road Infrastructure

The potential impact on the operation of the road network is presented in Section 5 of this report. This section focuses on whether any elements of the proposed road network will need to be accelerated to cater for the proposed Amendment.

10.1.1 Monitoring Framework

The timing for development of key transport projects at Cherrywood, such as the Kiltiernan Link Road are linked to land use thresholds in the current Cherrywood SDZ planning scheme.

Recently, modelling work has been undertaken to revise such thresholds. However, it has been concluded that the use of land use thresholds may not be the optimal approach to determining the phasing of key projects, like the Kiltiernan Link Road. As an alternative, it is proposed that a more appropriate approach might be to link the phasing of the Kiltiernan Link Road to conditions on the road network, within and around Cherrywood.

A defined vehicular threshold could be identified, using the NTA ERM, for peak hour access through Cherrywood. The threshold would reflect the capacity of junctions and links within the development, and the agreed mode share targets. Once the vehicular threshold has reached 80%, it will be recommended that actions are put in place to mobilise planning and design requirements for the Kiltiernan Link Road.

It is proposed that the existing Cherrywood Transport Indicators Report, undertaken annually, is used as the basis for monitoring the vehicular threshold. This may require more frequent assessment of vehicular movements. The Indicators Report can be expanded to include a wider range of transport indicators that will support DAPT and stakeholders in determining when and where additional provision of transport infrastructure and services are required to influence mode share. This may include additional indicators such as:

- Mode share for trips to work and school.
- Perception of active and public transport infrastructure and services, including safety.
- Pedestrian and cycle volumes at key points.
- Availability and uptake of cycle parking.
- Collision statistics.
- Air quality monitoring.
- Bus services and delays.
- Local business sentiment.
- Parking occupancy / turnover.

The report will also include a summary of changes in the provision of infrastructure and public transport services within the area.

10.1.2 Kiltiernan Link Road

Chapter 7 of the CPS states that construction of Kiltiernan Link Road is to be commenced prior to the permission of HIE development within the Planning Scheme Boundary exceeding 241,000sqm or equivalent (12,050 employees).

AECOM previously completed a Development and Sequencing study, which assumed a 2028 forecast year, it was found that the road and public transport networks excluding the delivery of Kiltiernan Link Road could accommodate forecast travel demand arising from planned development plus an additional 2,000 residential units, except at Junction A. However, with the implementation of additional measures

to foster sustainable travel plus stricter parking standards within the SDZ, it was found that Junction A could accommodate forecast traffic levels. Therefore, assuming the measures described are implemented, Kiltarnan Link Road is not required in 2028.

For the Cherrywood TCE study, which assumes a 2043 forecast year, it was found that Barrington Road and public transport networks including the delivery of Kiltarnan Link Road could accommodate forecast travel demand arising from planned development, except at Junction A. Furthermore, the performance of Junction A is not sufficiently improved by the implementation of additional measures to foster sustainable travel plus stricter parking standards within the SDZ. Therefore, based on this analysis, Kiltarnan Link Road is required in 2043.

Kiltarnan Link Road is required between 2028 and 2043. Given that Junction A was found to be at capacity in 2028 with all the measures described in place, it is recommended that Kiltarnan Link Road is delivered closer to 2028 than 2043. This is consistent with the year implied by 12,050 employees, as employment levels assumed within the SDZ in the Development and Sequencing Study in 2028 are approximately 6,500, whilst employment levels assumed within the SDZ in the Cherrywood TCE study in 2043 grow to approximately 25,700.

Based on the assumptions outlined within this report, HIE development of 12,050 employees is equivalent to 12,900 residential units within the Cherrywood SDZ. However, given the difficulties in identifying appropriate development linked thresholds, it has been determined that the performance of the adjoining road network is a more appropriate indicator of the need for Barrington Road, Beckett Road and Kiltarnan Link Road. Further detail on the proposed approach to identifying the need for these additional roads is provided in the following sections.

Key Indicators

The operational assessment of Junction A for the 2028 Base Scenario indicates that Junction A will operate overcapacity with a maximum DoS of 108.5%. This is based on the assumption that the mode share for Cherrywood is as stated in the ERM outputs (57% car/43% Non-Car modes).

However, following the implementation of measures as outlined in the Planning Scheme it is anticipated that a Non-Car target mode share of 53% will be achieved. Additionally, the implementation of these measures along with the implementation of stricter parking standards in line with the proposed amendment to the Planning Scheme are anticipated to result in an overall Non-Car target mode share of 66%. If the Non-Car mode share of 66% is achieved, Junction A will operate with a maximum DoS of 79.9% in 2028 Base Scenario.

Following the implementation of the above measures, it is anticipated that 2,000 additional residential units, over and above currently permitted developments can be advanced, with a resultant maximum DoS of 104.5%. The mean max queue in this scenario is 222m on Wyattville Link Road towards the N11.

The following key indicators and thresholds have been identified as being appropriate for determining the need for the Kiltarnan Link Road:

- Max Degree of Saturation at Junction A:
 - Threshold of 105%.
- Queue Lengths on Wyattville Link Road:
 - Threshold of 650m towards M50.
 - Threshold of 240m towards N11.

The above thresholds are performance levels at which it is determined the Kiltarnan Link Road will be required. Therefore, to ensure delivery of Kiltarnan Link Road in advance of reaching these thresholds, it is recommended that the planning and design phases of the Kiltarnan Link Road commence when any of these thresholds reach 80% of the level identified above.

It should be noted that surveys have been undertaken recently (November 2024) to inform the Cherrywood Transport Indicators Report. Whilst modelling has not been undertaken on the surveyed results, it is not anticipated that any of the thresholds identified above are currently being exceeded.

Monitoring Strategy

An annual assessment of the strategic road network performance is undertaken by DLRCC in conjunction with TII and in consultation with the NTA. This assessment is undertaken using annual traffic surveys, which are completed in November each year. It is proposed to expand the scope of this assessment to include:

- An assessment of Junction A operational performance using LinSig or similar software; and
- Analysis of recorded queue lengths towards on Wyattville Link Road.

Assumptions and Risks

It has been assumed that the development of the Kiltarnan Link Road will commence when either of the thresholds identified exceed 80% of the limits stated above in one survey period.

The following risks have been identified:

- Annual traffic surveys are undertaken once per year. There is a risk that seasonal fluctuations may result in under or over reporting of key indicators.
- Availability of funding and/or staff required to develop the Kiltarnan Link Road.

10.1.3 M50 Demand Management

The increased population may accelerate discussions around additional traffic and demand management measures onto the M50, in conjunction with TII and in consultation with the NTA. Particularly, demand on the M50 has returned to pre-COVID-19 levels. The need for these discussions will emerge from the annual assessment of strategic road network performance which is undertaken by DLRCC in conjunction with TII and in consultation with the NTA. This is currently carried out annually in accordance with the Protocol agreed by TII/NTA/DLRCC.

10.2 Phasing of Active Transport

Given the extent of pedestrian and cycle facilities in place and due to be delivered as part of the town centre development, it is concluded that the pedestrian and cycle network will be capable of supporting the additional population. However, there are some items for consideration in relation to phasing given the importance of a high active mode share in reducing the risk around reduced parking:

The scale of the WLR/Tully Vale junction (Junction A) may discourage some cyclists/pedestrians, so the early delivery of the alternative routes between TC1/TC2 and TC3/TC4/HIE and especially the grade separated links across the Wyattville Link Road are important to encourage the use of these modes.

10.2.1 Grand Parade

The delivery of Grand Parade will help improve connections between various development types. Chapter 7 of the CPS states the need to commence the delivery of a 'Wide pedestrian crossing and Street from A2- A3 Grand Parade prior to the occupation of 40% of the retail or 45% of the employment' and it must be 'completed to a standard to be taken in charge prior to the occupation of 65% of the retail or 65% of the employment'. Given the significant increases in residential use being proposed and the reduction in retail/employment, it is recommended that delivery of this infrastructure is linked to residential rather than retail/employment.

AECOM previously completed a Development and Sequencing study, which assumed a 2028 forecast year, it was found that the road and public transport networks excluding the completion of Grand Parade could accommodate forecast travel demand arising from planned development plus an additional 2,000 residential units, except at Junction A. However, with the implementation of additional measures to foster sustainable travel plus stricter parking standards within the SDZ, it was found that Junction A could accommodate forecast traffic levels. Therefore, assuming the measures described are implemented, the completion of Grand Parade is not required in 2028.

This study, which assumes a 2043 forecast year, found that the road and public transport networks excluding the completion of Grand Parade could accommodate forecast travel demand arising from

planned development, except at Junction A. Furthermore, the performance of Junction A is not sufficiently improved by the implementation of additional measures to foster sustainable travel plus stricter parking standards within the SDZ. Therefore, based on this analysis, the completion of Grand Parade is required in 2043.

Grand Parade needs to be completed between 2028 and 2043. Given that Junction A was found to be at capacity in 2028 with all the measures described in place, it is recommended that Grand Parade is completed in accordance with the phasing of development under the existing grant of permission DZ17A/0862, as amended, or prior to the occupation of any additional development within TCC1, TCC2 or TCC4 (this would then accord with the proposed amendment).

Additionally, it is worth noting that Wyattville Link Road is a hostile environment for vulnerable road users and causes severance issues within the existing Cherrywood Town Centre. Therefore, it is recommended that Grand Parade Bridge be completed as soon as possible to address severance issues.

10.2.2 Main Street Bridge

The delivery of the Main Street Bridge crossing between TC1 and TC3 will help improve connections between various development types as both TC1 and TC3 are developed. It will facilitate active travel trips within the Cherrywood Town Centre and between Cherrywood Town Centre with the wider Cherrywood SDZ. Additionally, given the hostile nature of Wyattville Link Road, delivery of this infrastructure will provide a safe, segregated route for active travel trips. It is therefore recommended, that Main Street Bridge is to be provided in conjunction with the respective development parcels in TC1 and TC3, namely TCC1B-5 / TCC1B-6 or TCC3-2 / TCC3-3.

10.2.3 Junction O

The delivery of active travel crossing facilities at Junction O will improve connections between TC1 and TC3 and will result in an alternative at-grade crossing to Junction A. It is recommended that Junction O should be provided prior to the occupation of any additional development within the Town Centre Core or Town Centre Environs (TCC1, TCC3, TCE4 and TCE5).

10.2.4 Junction A

Junction A is an existing signal-controlled junction which comprises Wyattville Link Road, Cherrywood Avenue and Valley Drive. Measures should be provided at this junction to segregate cyclists from vehicular traffic on all arms. Additionally, signal timings should be examined to determine if enhancements to pedestrian crossing times are possible. Any proposed changes should be cognisant of traffic impacts associated with signal timing changes and should balance the needs of all users. It is recommended that any improvements to Junction A should be provided prior to the occupation of any additional development within the Town Centre Core. Phasing of Development

The success of the Cherrywood SDZ, in transport terms, is heavily dependent on the achievement of a high PT/Active mode share and a high percentage of internal sustainable mode trips between the residential, employment, education and leisure uses within Cherrywood. There is a need to ensure balanced development and associated delivery of sustainable infrastructure. There is a risk that the proposed land-use changes in the TCE will unbalance the development resulting in insufficient housing to cater for employment in the area or vice versa resulting in a greater number of trips into or out of the Cherrywood SDZ. It would be beneficial to ensure there is a balanced approach to the delivery of the residential and HIE units to develop a community from the outset.

Improved connections between the town centre quadrants may help offset this unbalance and efforts should be made to deliver on the 10-minute settlement ambitions where possible by encouraging more services for residents. The need for these connections may necessitate the accelerated delivery of infrastructure prior to the occupation of a certain % of the residential in the town centre. This may include schemes such as Grand Parade and improved cycle infrastructure and facilities linking both the town centre quadrant and wider area.

In addition, there should be a commensurate increase in community facilities to ensure sustainable travel patterns emerge within Cherrywood. It should be noted that a Community Facilities review has been undertaken as part of the Cherrywood TCE amendment by MacCabe Durney Barnes which identifies appropriate quantum's of community facilities.

10.3 Strategic Considerations

Changes of use within the basement parking levels may result in a number of indirect impacts at both basement level and street level. A number of access locations to the basement have previously been identified. These access locations provide car, HGV and pedestrian access as appropriate and have been located to ensure suitable segregation between these user types. Changes in use of basement levels may result in access requirements for users at different locations and may result in less user segregation at existing locations. Additionally, internal circulation routes for each user type within the basement have been developed based on the existing proposed uses. Internal circulation routes and user access requirements should be reviewed within the context of the proposed altered uses at basement level.

A large portion of car and bicycle parking is provided within the existing basement uses. Cycle parking provision within the basement levels will be examined in a case-by-case basis, and the number of bicycle parking spaces should be in accordance with the current County Development Plan and relevant design standards.

10.4 Recommendations

10.4.1 Roads Measures

A number of measures have been identified which may improve the performance of Junction A. Subject to observance of the Spatial Planning and National Roads Guidelines for Planning Authorities (DoECLG, 2012) and compliance with TII Publications or DMURS as appropriate, these measures are:

- Filtered permeability/traffic management solutions.
- Signal optimisation.
- Amendments to the geometry of Junction A, including:
 - Provision of slip lanes.
 - Reducing overall junction size.
- Optimising other junctions on Wyattville Link Road, including Junction O.
- Completion of Grand Parade which may reduce pedestrian stages at Junction A.
- Behavioural change measures such as provision of wayfinding signage to key destinations with walking and cycling times.
- Adjusted car-parking standards.

In addition to the measures identified above which may improve the performance of Junction A, a range of further measures, which can contribute to the overall safety and sense of place of the road network have been identified. These measures include:

- Speed Limits.
- Transition Zones.
- Shared Mobility.

10.4.2 Car Parking

It is recommended that parking standards and the approach to parking provision within the Cherrywood SDZ are reviewed regularly to ensure that the parking standards remain appropriate to achieve ambitious modal split targets.

10.4.3 Phasing

Roads

The following key indicators and thresholds have been identified as being appropriate for determining the requirement for the Kiltarnan Link Road:

- Max Degree of Saturation at Junction A:
 - Threshold of 105%
- Queue Lengths on Wyattville Link Road:
 - Threshold of 650m towards M50
 - Threshold of 240m towards N11

The above thresholds are levels at which it is determined that Kiltarnan Link Road is required. Therefore, to ensure delivery of Kiltarnan Link Road in advance of reaching these thresholds, it is recommended that development of Kiltarnan Link Road commence when any of these thresholds reach 80% of the level identified above.

Active Travel

A wide pedestrian crossing and Street from A2- A3 Grand Parade completed to a standard to be taken in charge prior to the occupation of 65% of the retail, or 65% of the employment, or 50% of residential.

Whilst it is recommended from a capacity perspective, that Grand Parade be completed prior to construction of 50% of the residential units, it is worth noting that Wyattville Link Road is a hostile environment for vulnerable road users and causes severance issues within the existing Cherrywood Town Centre. Therefore, it is recommended that Grand Parade Bridge be completed as soon as possible to address severance issues.

Appendix A Policy Review

A summary of relevant national, regional, and local policies considered in this review is provided in Table A-1.

Table A-1: Relevant Policies Reviewed

Government Level or Sphere	Relevant Policies
National	<ul style="list-style-type: none"> Climate Action Plan 2024 & Climate Action and Low Carbon Development (Amendment) Act 2021 Project Ireland 2040 – National Planning Framework. Project Ireland 2040 – National Sustainable Mobility Policy. National Investment Framework for Transport in Ireland (NIFTI). Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities. Spatial Planning and National Roads Guidelines for Planning Authorities (2012). Sustainable Urban Housing : Design Standards for New Apartments Guidelines for Planning Authorities, (2023). Urban Development and Building Height Guidelines for Planning Authorities, (2018).
Regional	<ul style="list-style-type: none"> Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region (2019-2031). National Transport Authority – Greater Dublin Area Transport Strategy 2022-2042.
Local	<ul style="list-style-type: none"> DLRCC Climate Change Action Plan 2024-2029. DLRCC County Development Plan 2022-2028.
Standards and Guidance	<ul style="list-style-type: none"> Design Manual for Urban Roads and Streets (DMURS) (2012 and 2019) TII Publications (Standards and Technical) (2016 onwards)

An overview of these policies is provided in the next sections, covering their relevance to the infrastructure review and how they could influence Cherrywood SDZ infrastructure provision decisions.

A.1 National Policy

A.1.1 Project Ireland 2040 – National Planning Framework

Project Ireland 2040, the Irish government's long-term comprehensive plan, strives to improve the quality of life in Ireland for all citizens and create a more resilient and sustainable future. The plan aims to ensure that communities and businesses nationwide reach their full potential and do so in a sustainable manner. It allows Government to respond to deficits in infrastructure, as well as meet the needs of a fast-growing population, expected to increase by one million between 2018 and 2040. The increased population will result in additional demand for transport services, infrastructure development and maintenance that the Irish Government and local authorities should provide.

Project Ireland 2040 includes ten National Strategic Objectives (NSOs) and ten Strategic Investment Priorities that will guide planning in Ireland until 2040. Project Ireland 2040 is comprised of the National Planning Framework (NPF) and the National Development Plan (NDP). The NPF sets out the vision and strategy for Ireland's growth through 2040, while the NDP sets out a ten-year strategy for public capital investment to achieve the NSOs.

An overview of the NSOs relevant to the Cherrywood Infrastructure Review and how the review is aligned with these NSOs is provided in Table A-2: .

Table A-2: Alignment between NSOs and the Physical Infrastructure Review Programme

NSO	Alignment with the Infrastructure Review Programme
NSO1: Compact Growth	This NSO aims to promote the sustainable growth of cities, towns and villages to create attractive places in which people can live and work. Achieving effective density and consolidation of urban development, is one of the NSO's priorities. The infrastructure review programme is a key enabler of the envisaged form of development.
NSO2: Enhanced Regional Accessibility	This NSO aims to enhance accessibility between key urban centres of population and their regions. This will ensure that all regions and urban areas in Ireland have a high degree of accessibility to Dublin, as well as to each other. Review of transport infrastructure, included in the physical review programme is important in achieving connectivity between the Cherrywood SDZ and surrounding areas, supporting economic activity and the movement of people and goods to and from these areas.
NSO4: Sustainable Mobility	This NSO aims to ensure a cleaner, a quieter urban environment free of internal combustion engine-driven transport systems. The provision of infrastructure for active travel is among intervention that are useful in achieving this objective. The physical infrastructure programme includes significant active travel infrastructure scope, making it a key enabler of this NSO. In addition, physical infrastructure review could include proposal of infrastructure for alternative energy such as charging stations for electric vehicles. It could also include proposals for other modes such as rail and light rail, which will reduce dependence on private cars and contribute to sustainable mobility.
NSO7: Enhanced Amenity and Heritage	This NSO aims to ensure that cities, towns and villages are attractive and offer a good quality of life. It proposes investment in a well-designed public realm, which includes public spaces, parks and streets, as well as recreational infrastructure. The physical infrastructure review is essential in identifying opportunities for investment in suitable amenities in the Cherrywood SDZ.
NSO8: Transition to a Low Carbon and Climate Resilient Society	As discussed in previous sections, carbon emission mitigation and climate resilience are key policy themes. The physical infrastructure review programme supports climate change mitigation initiatives through ensuring the provision of infrastructure for sustainable transport modes as required under NSO4. In addition, the programme is useful in identify opportunities to improve existing infrastructure or provide new infrastructure that can withstand the impacts of climate events better.

NSO	Alignment with the Infrastructure Review Programme
NSO9: Sustainable Management of Water, Waste and other Environmental Resources	Conserving and enhancing the quality of natural resources, including water resources is important in sustainable development of urban centres. This includes reducing wastage of resources and creating a circular economic in which resources previously considered waste can be reused. The physical infrastructure review programme provides opportunities to identify ways of improving the water and other environmental resources are currently managed or will be managed in the Cherrywood SDZ, ensuring that suitable infrastructure is provided to enable sustainable use of resources.

In addition to the NSOs, Project Ireland 2040 also includes Strategic Investment Priorities that will contribute to the achievement of the NSOs. Several of these priorities are aligned with the Physical Infrastructure Review Programme as discussed in Table A-3.

Table A-3: Alignment Between Strategic Investment Priorities and the Physical Infrastructure Review Programme

Strategic Investment Priority	Alignment with the Infrastructure Review Programme
Housing and Sustainable Urban Development	The infrastructure review programme is useful in better use of existing infrastructure which encourages compact and sustainable growth.
Environmentally Sustainable Public Transport	Infrastructure enhancement and investment have an important role in enabling sustainable mobility. This can include the provision of active travel facilities, infrastructure for modes such a light rail and alternative energy such as electric vehicle charging stations.
Climate Action	Investment in improving the resilience of existing and future infrastructure is significant in mitigating the impacts of climate change on the Irish economy and society.
Water Infrastructure	The infrastructure review programme will include the identification of measures to improve the management of resources such as water to support sustainable growth. These measures may include enhanced or new water infrastructure.

A.1.2 National Investment Framework for Transport in Ireland (NIFTI)

The National Investment Framework for Transport in Ireland (NIFTI) is a framework for prioritising future investment in the land transport network to support the delivery of the NSOs. NIFTI also incorporates Climate Action Plan (CAP) measures for land transport. It translates the ten NSOs in the NPF into a transport-specific context, developing investment priorities that will ensure that the transport sector can contribute to delivering the NPF.

NIFTI includes the following four investment priorities that are aligned with the Physical Infrastructure Review Programme:

- **Decarbonisation**, including promotion of sustainable mobility through investment in public transport and active travel. The Physical Infrastructure Review is useful in identifying and developing relevant interventions and opportunities and is, therefore, aligned with NIFTI.

- **Protection and Renewal**, including adequate maintenance of infrastructure to ensure safety, make sustainable modes an attractive option, and deliver connectivity and accessibility. This investment priority is aligned with improvements to existing infrastructure to meet the needs of those traveling to or living in and around the Cherrywood SDZ.
- **Mobility of People and Goods in Urban Areas**, including support for projects that reduce urban congestion, particularly sustainable mobility measures which also promote decarbonisation. The Physical Infrastructure Review Programme enables DLRC to identify opportunities to maintain and improve infrastructure needed to enhance the mobility of people and goods in the Cherrywood SDZ and is, therefore aligned with this investment priority.
- **Enhanced Regional and Rural Connectivity**, including addressing priority bottlenecks and constraints. The Physical Infrastructure Review Programme is useful in ensuring that DLRC identifies opportunities to enhance the Cherrywood SDZ's connectivity to surrounding areas. This is essential in ensuring integration of the SDZ economy with markets, sources of goods and services and sources of human capital.

The above priorities will be a useful basis for identifying and prioritising interventions during the infrastructure review process.

A.1.3 National Sustainable Mobility Policy

The National Sustainable Mobility Policy sets out a strategic framework to 2030 for active travel and public transport journeys to help Ireland meet its climate obligations. It includes an action plan to 2025, which has actions to improve and expand sustainable mobility options across the country by providing safe, green, accessible, and efficient alternatives to car journeys. It also includes demand management and behavioural change measures to manage daily travel demand more efficiently and to reduce the number of journeys taken by private car. The policy aims to deliver at least 500,000 additional daily active travel and public transport journeys by 2030 and a 10% reduction in the number of kilometres driven by fossil fuelled cars. It will make it easier for people to choose walking, cycling and use public transport daily instead of having to use a petrol or diesel car.

A summary of the principles and goals outlined in the plan are outlined in Table A-4: National Sustainable Mobility Policy Principles and Goals

Table A-4: National Sustainable Mobility Policy Principles and Goals⁷

PRINCIPLES	GOALS
Safe and Green Mobility	<ol style="list-style-type: none"> 1. Improve mobility safety. 2. Decarbonise public transport. 3. Expand availability of sustainable mobility in metropolitan areas. 4. Expand availability of sustainable mobility in regional and rural areas. 5. Encourage people to choose sustainable mobility over the private car.
People Focused Mobility	<ol style="list-style-type: none"> 6. Take a whole of journey approach to mobility, promoting inclusive access for all. 7. Design infrastructure according to Universal Design Principles and the Hierarchy of Road Users model. 8. Promote sustainable mobility through research and citizen engagement.
Better Integrated Mobility	<ol style="list-style-type: none"> 9. Better integrate land use and transport planning at all levels. 10. Promote smart and integrated mobility through innovative technologies and development of appropriate regulation.

It is notable that many of the goals of the Sustainable Mobility Policy are already objectives of the Cherrywood SDZ. These include expanding the availability of sustainable mobility, encouraging people to choose sustainable mobility over private car, and better integration of land use and transport planning. Many of the goals of the National Sustainable Mobility Policy are reliant on the improvement of infrastructure or the provision of new sustainable transport infrastructure. The Physical Infrastructure Review Programme enables DLRCC to identify opportunities to enhance transport infrastructure to support the policy's objectives. This shows that the Physical Infrastructure Review Programme is aligned with and supports the National Sustainable Mobility Policy.

A.1.4 Climate Action Plan 2024

The newest iteration of the Irish Government's Climate Action Plan (CAP) was published in January 2024. CAP24 aligns with the legally binding economy wide carbon budgets and sectoral ceilings that were agreed by Government in July 2022. The desired outcome of CAP24 is to build on CAP23 in enabling Ireland to meet its first and second carbon budgets (2021 – 2025 and 2025 – 2030 respectively).

CAP24 builds on CAP23 in applying the AVOID-SHIFT-IMPROVE framework for greater transport sustainability, underpinned by detailed transport modelling and stakeholder consultation. It calls for a significant cut in transport emissions by 2030. In addition to reducing greenhouse gas emissions, CAP24 proposes continued adaptation to climate change impacts that are already locked-in and will continue to evolve for the foreseeable future. CAP24 highlights climate changes including rising sea level rise, increases in average temperature, changes in precipitation patterns, and weather extremes which impact the transport system and other public infrastructure.

Infrastructure interventions have a significant role in enabling the DLRCC to contribute to CAP24 objectives. These include initiatives to improve the climate resilience of transport infrastructure and providing or enhancing infrastructure that facilitate the delivery of public transport services and active travel modes in the Cherrywood SDZ. In addition, consideration of the provision of infrastructure for alternative, low-emission fuels or energy sources could also contribute to sustainable mobility.

⁷ National Sustainable Mobility Policy

Besides transport-specific interventions, broader infrastructure investment, including in more resilient water and waste management can also contribute to the achievement of CAP24 objectives and better climate mitigation. In addition, investment in infrastructure for improving waste management and handling, which can promote recycling can reduce the Cherrywood SDZ's carbon footprint, contributing to the CAP24 objectives.

The Physical Infrastructure Review Programme is a key enabler of initiatives needed to achieve CAP24 objectives and is therefore aligned with the plan and broad DLRCC, GDA and national climate action and resilience imperatives.

A.1.5 Sustainable and Compact Settlements Guidelines for Planning Authorities (2024)

The Department for Housing, Local Government and Heritage has developed a policy approach to sustainable and compact settlements which builds on and updates previous guidance in relation to the planning and development of urban and rural settlements.

The preferred policy approach includes indicators of quality design and placemaking that should be applied in the preparation and consideration of individual planning applications. These indicators should relate to sustainable and efficient movement, and the mix and distribution of land uses. The integration and quantum of car parking will be key to ensuring the overall quality and amenity of the development.

The guidelines state that to meet the transport emission reduction targets set out in the National Sustainable Mobility Policy (2022) and in CAP24, it will be necessary to apply a graduated approach to the management of car parking. 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. The Sustainable and Compact Settlements Guidelines will provide a basis for parking proposals to be made in the Physical Infrastructure Review.

A.1.6 Spatial Planning and National Roads Guidelines for Planning Authorities (2012)

These guidelines set out planning policy considerations relating to development affecting national primary and secondary roads, including motorways and associated junctions, outside the 50-60 km/h speed limit zones for cities, towns and villages.

A.1.7 Sustainable Urban Housing : Design Standards for New Apartments Guidelines for Planning Authorities, (2023)

The overall purpose of these Guidelines is to strike an effective regulatory balance in setting out planning guidance to achieve both high quality apartment development and a significantly increased overall level of apartment output.

These Guidelines apply to all housing developments that include apartments that may be made available for sale, whether for owner occupation or for individual lease.

A.1.8 Urban Development and Building Height Guidelines for Planning Authorities, (2018)

These Guidelines are intended to set out national planning policy guidelines on building heights in relation to urban areas, as defined by the census, building from the strategic policy framework set out in Project Ireland 2040 and the National Planning Framework. The Guidelines applies the requirements of the NPF in setting out relevant planning criteria for considering increased building height in various locations but principally (a) urban and city-centre locations and (b) suburban and wider town locations.

A.2 Regional Policy

A.2.1 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 several 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. It includes sixteen Regional Strategic Outcomes (RSOs) that broadly align with the National Strategic Outcomes of the NPF, the United Nations Sustainable Development Goals, EU policies, and other national policies.

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

- Align population, employment and housing growth – promoting sustainable growth in the right locations that reduces the distance between the places people live and work.
- Compact sustainable growth – promoting compact, sequential and sustainable development of urban areas. It also includes promoting 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 – harnessing opportunities for economic growth by supporting synergies.

The RSES growth enablers are aligned with the Physical Infrastructure Review. Infrastructure interventions to be proposed through the review, aimed at delivering sustainable mobility, supporting compact growth and improving the quality and sustainability of Cherrywood infrastructure will support the achievement of RSES objectives.

Dublin Metropolitan Area Strategic Plan (MASP)

The Dublin MASP, which is contained within Chapter 5 of the RSES, sets out a strategic planning and investment framework for the growth of the Dublin Metropolitan area over a 12-to-20-year horizon. The MASP comprises an integrated land-use and transportation strategy. It identifies strategic residential and employment corridors based on their current and future development capacity, their ability to deliver outcomes such as compact development, placemaking, accessibility to public transport, potential for economic development, and their ability to deliver a reduced carbon footprint. Within the Metrolink / LUAS Green Line Corridor, Cherrywood is identified as new and emerging mixed-use district.

In terms of employment generation, the MASP aims to intensify strategic employment areas within the M50 ring, including activating key strategic sites such as Cherrywood.

A.2.2 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 investment priorities.

The strategy is consistent with national and regional spatial planning.

The Transport Strategy includes the following four objectives:

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.

The Strategy includes the following seventeen measures to help meet these four objectives.

- Measure PLAN1 Policy Concepts in Transport and Land Use Planning.
- Measure PLAN2 The Road User Hierarchy.
- Measure PLAN3 Housing and Transport.
- Measure PLAN4 Consolidated Development.
- Measure PLAN5 Retail Development.
- Measure PLAN6 Office Developments.
- Measure PLAN7 Transit Oriented Development.
- Measure PLAN8 Mixed Uses.
- Measure PLAN9 Filtered Permeability.
- Measure PLAN10 School Site Selection.
- Measure PLAN11 Location of Schools.
- Measure PLAN12 Design of Schools.
- Measure PLAN13 Road Network Serving Schools.
- Measure PLAN14 Urban Design in Major Infrastructure Projects.
- Measure PLAN15 Urban Design in Walking and Cycling Projects.
- Measure PLAN 16 Reallocation of Road Space.
- Measure PLAN 17 Local Transport Plans.

All the seventeen measures have clear links to infrastructure and will therefore influence or be influenced by the Physical Infrastructure Review addressed in this report. The measures will be referred to as necessary in identifying infrastructure interventions during the review.

The Cherrywood SDZ is referred to specifically in:

- **Measure PLAN5 – Retail Development:** The strategy will provide support to retail developments that form a part of a major residential development.
- **Measure PLAN7 – Transit Oriented Development:** A concept that links levels of accessibility to development density, with buses and Luas trams servicing a major part of Cherrywood's transport demands.

The strategy also outlines the current approach to the consideration of mixed-use development as outlined in Measure PLAN 8, which focuses on reducing the need for longer distance travel as part of the 15-minute city concept.

The importance of the concept of filtered permeability which confers an advantage on active travel modes by facilitating pedestrian and cyclist movement through areas which are not accessible to vehicles, is highlighted in PLAN 9. This will be a key consideration in proposing interventions for the Physical Infrastructure Review and broad Cherrywood development plans

The Strategy has several themes under which enablers of the seventeen measures are included. These themes include

- **Integration and inclusion** - aimed at achieving a well-integrated human-centred transport system that includes the physical environment of stops and stations, the length and quality of the walk between services, crossing points, travel information, fares integration, cycle parking, shelter, frequency and capacity of connecting services.
- **Cycling and Personal Mobility Vehicles** - the NTA will encourage local authorities to allow for at least 20% of trips to be undertaken by cycling and for cycle parking standards to be set out on this basis.
- **Public Transport** - the focus of the public transport strategy is the provision of a comprehensive bus network which is based on enhanced levels of service through greater on-street priority.
- **Roads** - the GDA Transport Strategy aims to provide safe, resilient road transport routes and liveable streets within the context of the need to support sustainable development principles and legislative commitments to decarbonise the transport sector in Ireland.
- **Traffic Management and Travel Options** - the main objective of traffic management is to ensure that the regional transport system continues to operate in an efficient manner. The strategy outlines the need to consider demand management of destination parking, with local authorities able to utilise the following measures.

The Cherrywood SDZ Physical Infrastructure Review Programme is significantly aligned with the GDA Transport Strategy. Initiatives in the strategy will provide guidance on interventions that could be proposed in the infrastructure review. As much as possible, interventions to be proposed in the review will align with those in the strategy to ensure broad support by stakeholders such as the NTA.

A.3 Local Policy

A.3.1 DLRCC Climate Change Action Plan 2024-2029

The Council's Climate Action Plan includes a range of actions across five key areas namely energy and buildings, transport, flood resilience, nature-based solutions, circular economy and resource management, and community engagement.

In relation to transport, the plan has three key objectives, namely promotion of active travel in the county for people of all ages, embedding low carbon transport modes, road safety and accessibility in communities, and future proofing DLR's road and bridge infrastructure.

There are several transport related actions that are currently budgeted for by DLRCC including:

- T1 – Deliver a safe active travel network for people of all ages and abilities by implementing the County and Greater Dublin Area Cycle Network.
- T3 – Support the accessible bikes borrowing scheme.
- T7 – Expand the EV / ebike / eScooter charging networks in the County, including disabled access for EV charging.
- T9 – Identify opportunities to implement permeability and connectivity in the planning process.

- T12 – Expand car sharing schemes in the County, with a focus on the provision of electric vehicles. T13 – Expand the network of secure, public cycle and scooter parking to accommodate a variety of transportation modes.
- T15 – Facilitate public transport development in the County.

All the actions have links with infrastructure and will therefore influence or be influenced by the Physical Infrastructure Review Programme. These actions will provide a basis for some of the interventions to be proposed in the review. The infrastructure review process will also be used to update any of the actions to reflect new information that may become available during the review process.

A.3.2 DLRC 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. The key policy recommendations outlined within the plan are:

- **Integration of Land Use and Transport.**
- **Promoting ten-minute neighbourhoods and compact climate resilient communities** where people have the options to use public transport and softer modes for everyday trips.
- **Implement travel demand management measures** aimed at reducing the demand for travel and increasing the efficiency of the transport network including:
 - Car sharing schemes.
 - Implementation of car parking standards.

The Plan identifies four parking zones within the county. Cherrywood SDZ is located in Parking Zone 2 which is defined as an area well-served by public transport and is subject to relevant parking standards specified within the Plan. However, deviation from these standards may be permissible having regard to the following criteria:

- Proximity to public transport services and level of service and interchange available.
- The need to safeguard investment in sustainable transport and encourage a modal shift.
- Availability of car sharing and bike / e-bike sharing facilities.
- Capacity of the surrounding road network.
- Robustness of Mobility Management Plan to support the development.

A.4 Standards and Guidance

A.4.1 Design Manual for Urban Roads and Streets (DMURS) (2012 and 2019)

DMURS provides guidance relating to the design of urban roads and streets. It presents a series of principles, approaches and standards that are necessary to achieve balanced, best practice design outcomes with regard to street networks and individual streets. A further aim of the Manual is to put well designed streets at the heart of sustainable communities. Well-designed streets can create connected physical, social and transport networks that promote real alternatives to car journeys, namely walking, cycling or public transport.

A.4.2 TII Publications (Standards and Technical) (2016 onward)

TII Publications provides requirements, advice, and guidance in relation to managing and improving Ireland's national road and light rail networks. Section 1.3 of DMURS and Government's *NGS Circular No. 2 of 2022 re. Application of Guidelines and Standards in relation to works on Public Roads in Ireland* prescribe the utilisation of TII Publications for roads where speed limits of greater than 60km/h apply. TII Publications compliance is also required where development may impact the national road network which includes structures and associated ancillary infrastructure. In addition, TII Publications includes

Light Rail Environment - Technical Guidelines for Development, TII Publication no. PE-PDV-00001
available at <https://www.tiipublications.ie/>

Appendix B Current Non-Residential Parking Standards

B.1 Non-Residential Standards

The Planning Scheme currently outlines bespoke non-residential parking standards in relation to three land use types including:

- High Intensity Employment.
- Education.
- Retail.

Currently parking standards relating to the non-residential land use types not listed above are deferred to the standards as outlined in the DLRC County Development Plan (CDP).

B.1.1 High Intensity Employment (HIE)

The Planning Scheme outlines that the previous DLRC CDP (2010-2016) set maximum car parking standards for HIE on a country wide basis. The SDZ proposed the development of new neighbourhoods and a new town centre on what is primarily green field land with no overhang of car parking permitted; when the hierarchy of modal share was more vehicle dominated. Due to this, the Planning Scheme set specific standards for HIE within the SDZ.

However, in relation to offices located along public transport corridors, the Planning Scheme continues to defer to the DLR CDP maximum car parking standard for HIE on-site car parking i.e. 1 space per 100 sqm GFA of new office space.

Table B-2 shows the car parking standards for HIE off-site car parking, consisting of temporary surface car parking and permanent multi-storey car parking as outlined in Chapter 4 of the Planning Scheme. The temporary car parking element allows for the ratio of car parking spaces to employees to be managed downwards over time in line with improvements to public transport.

It is noted that if the full quantum of HIE is delivered as outlined in Table B-1, the parking standard more accurately equates to 1 space per 89sqm.

Table B-1: Cherrywood Parking Standards for High Intensity Employment

	Existing		Proposed Development m ²				
	65,000	65,000 to 100,000	100,000 to 150,000	150,000 to 200,000	200,000 to 250,000	250,000 to 300,000	300,000 to 350,000
Floorspace	65,000	65,000 to 100,000	100,000 to 150,000	150,000 to 200,000	200,000 to 250,000	250,000 to 300,000	300,000 to 350,000
Employees (est.)	3,250	5,000	7,500	10,000	12,500	15,000	17,500
On-site parking (Cumulative)	1,100	1,450	1,950	2,450	2,950	3,450	3,950
Multistorey (Cumulative)	-	-	600	600	1,200	1,200	1,800
Temporary Surface (Cumulative) – Flexible	700	1,050	1,200	1,200	600	600	-
Total cumulative parking	1,800	2,500	3,750	4,250	4,750	5,250	5,750
Parking space to employee ratio	55% -	50% -	50% -	43% -	38% -	35% -	33%
Incl. temp. space	34%	29%	34%	31%	33%	31%	
Excl. temp spaces							

However, it should be noted that it is proposed to delete Table B-2 as part of the Non-Residential Parking Amendment (Amendment No. 10), which was submitted to ABP on 29th November 2024.

B.1.2 Retail

The Planning Scheme considers that multi-storey or underground parking structures are more appropriate for Cherrywood in place of individual car parks for retail located in mixed use areas.

In the case that a surface car park is proposed, the Planning Scheme states that the developer should demonstrate that this type of provision is not to the detriment of the vitality of the area, the public realm, pedestrian linkages, urban form and achieving the potential scale of development identified within the Development Areas, as set out in Chapter 6 of the Planning Scheme (2014 as amended).

It is noted that the car parking standards outlined for retail developments in Cherrywood are considered as maximum standards as shown in Table B-2.

Table B-2: Cherrywood Maximum Retail Car Parking Standards

Retail Type	Parking Standard
Food	1 space per 20 sqm gross floor area
Comparison	1 space per 50 sqm gross floor area
Shopping Centres & Stores	1 space per 50 sqm gross leasable area

B.1.3 Primary and Post Primary Schools

Parking standards in relation to education facilities are stated within the Planning Scheme as less than one space per classroom. The appropriate parking location and provision will be determined on a case-by-case basis in consultation with the Department of Education and Skills at pre-application stage due to the lack of space available for surface parking within the SDZ.

Cherrywood has been designed in order to encourage walking and cycling to school with an attractive pedestrian / cycle network of Cherrywood; schools will also be highly accessible by public transport therefore providing the option of sustainable modes for staff.

Currently one primary school has been delivered within the SDZ and following consultation with the Department for Education and Skills, provided 20 parking spaces mainly for the use of staff and visitors which equates to 0.8 spaces per classroom.

Appendix C Overview of Current Public Transport Provision

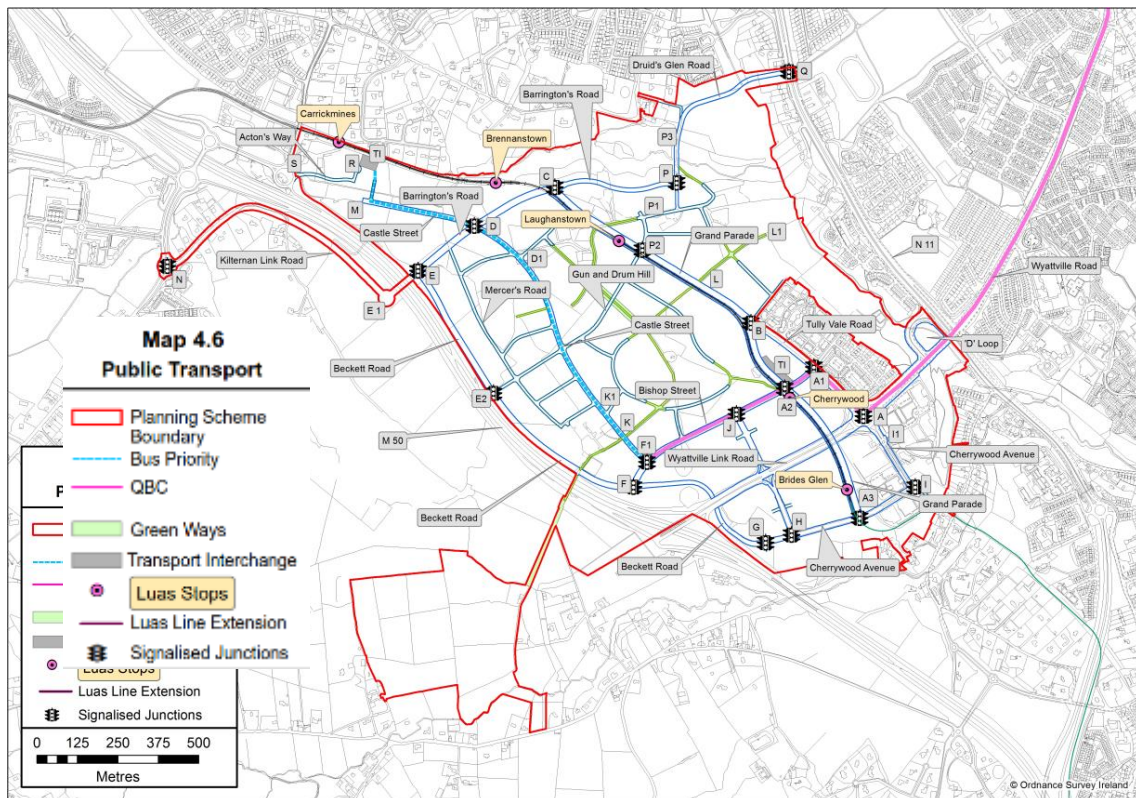
C.1 Bus Transport

The Cherrywood area is currently served by five bus routes, namely 7, 45, 84, 145 and 155. Routes 45, 145 and 155 operate on the N11 Core Bus Corridor (CBC) in the morning peak, with headways between 10 and 20 minutes. Route 84 has three services in the morning peak. Route 7 has six services between Cherrywood and the Loughlinstown area as well as Dublin City Centre, through Dún Laoghaire.

The Cherrywood SDZ Planning Scheme includes significant investment in bus priority though the delivery of a Quality Bus Corridor (QBC) along Wyattville Link Road and Bishop Street and through bus priority measures along Castle Street. These are shown in

Figure C-1 and Source: Cherrywood SDZ Planning Scheme Urban Form Development Framework (Sept 2017)

Figure C-2. These bus measures are incorporated within Road Phases 1, 1a and 2.



Source: Cherrywood SDZ Planning Scheme, DLRCC, 2014

Figure C-1: Public Transport Movement Strategy



Source: Cherrywood SDZ Planning Scheme Urban Form Development Framework (Sept 2017)

Figure C-2: Cherrywood Town Centre - Public Transport Movement Strategy

Given the wide distribution of origin and destinations both to and from the Cherrywood SDZ, and the limited corridor served by Luas Green Line, the bus services will perform a key role in responding to public transport demand.

Analysis of public transport demand was undertaken to understand the forecast demand accommodated by the bus services. Figure C-3 summarises the Cherrywood bus patronage in peak hours and are based on a low frequency service which serves the town centre only.

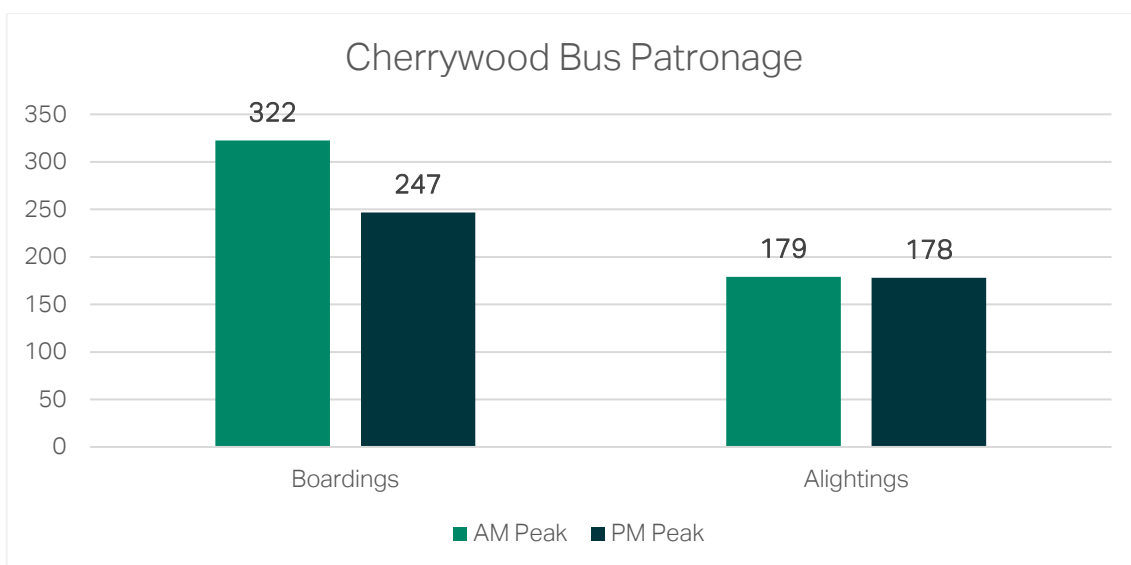


Figure C-3: ERM 2028 Cherrywood Peak Hour Bus Patronage

In 2028, the maximum number of bus movements (combination of boardings and alightings) in Cherrywood, in the peak hour, is approximately 400 - 500 passengers. Given the wide distribution of

origin and destinations both to and from Cherrywood this would be a conservative forecast and could be improved through increasing the frequency of services through Cherrywood.

C.2 Heavy Rail

The DART stations closest to Cherrywood are at Killiney and Shankill, at approximately 2.5km. These provide access to a high frequency rail service to the Dublin City Centre. However, DART is not expected to have significant public transport market share in Cherrywood.

C.3 Light Rail

Cherrywood is served by several Luas stops along the Green Line, including:

- Carrickmines
- Laughanstown
- Cherrywood, shown in Figure C-4.
- Brides Glen

These stations were developed as part of the Luas B1 Cherrywood project, completed in October 2010. The B1 project was developed to expand Luas services to Cherrywood to cater for future demand resulting from planned and ongoing development. The project included a 7.5km extension of the Green Line from Sandyford to Cherrywood and the addition of 11 new stops.



Figure C-4: Cherrywood Luas Stop

The Luas Green Line operates on a three-to-five-minute headway in the morning peak, catering for around 4,200 passengers in the Cherrywood area.

To understand the capacity of the Luas system, outputs from the NTA's ERM were used to inform demand in tandem with capacities for the Luas Green Line. The assumed operating capacity of the Luas Green line in 2028 AM peak hour is shown in Figure C-5.

Table C-1: Luas Green Line Capacity in 2028 AM Peak Hour

Luas Section	Trams Capacity (passengers)	Service Frequency	Capacity
Parnell <> Sandyford	408	24 services / hour	9,792
Sandyford <> Brides Glen	408	12 services / hour	4,896

Source: Based on 2028 NTA ERM

The capacities presented in Table C-1 were assessed against forecast passenger demand extracted from the NTA ERM. The northbound direction was found to carry the highest passenger load and was therefore used as the basis for the assessment.

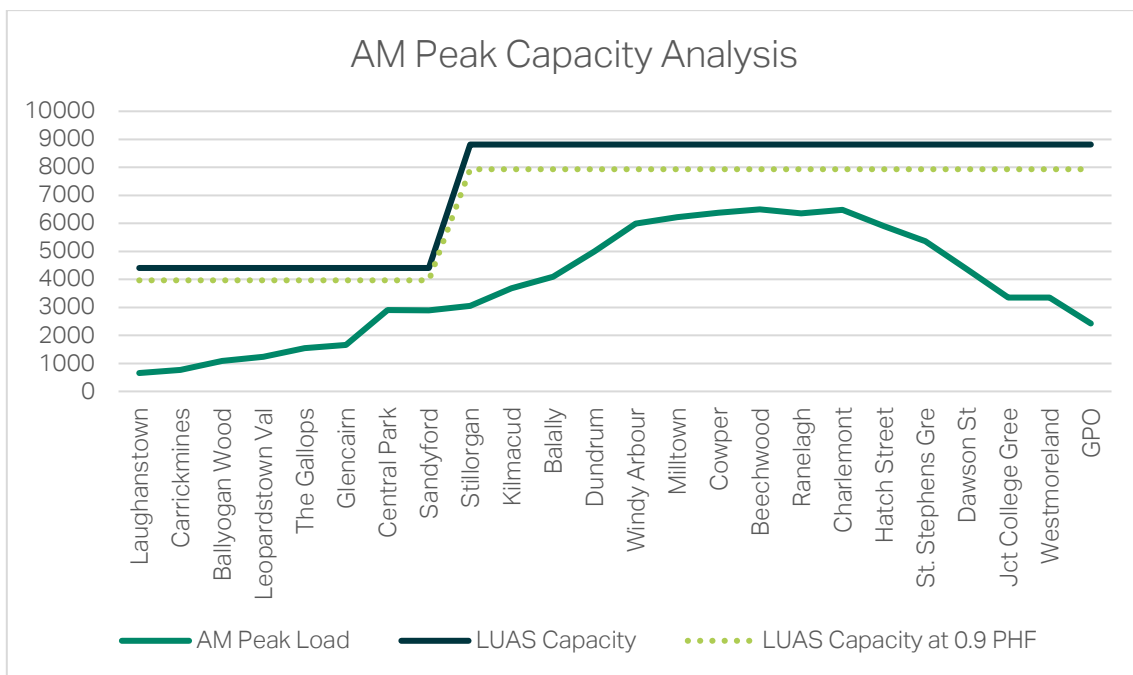


Figure C-5: Luas Capacity Analysis

Figure C-5 above illustrates that the capacity pinch point on the LUAS in the AM peak occurs at the Central Park stop. At this stop there is spare capacity for 1,498 passengers on the Luas in 2028.

C.4 Public Transport Walking Accessibility

Walking accessibility to public transport stops within the Cherrywood SDZ was considered in work undertaken by AECOM in 2018. Figure C-6 shows the extent of the 1km walking catchment from existing Luas stops. As shown, Luas serves most of the Cherrywood SDZ and provides a reliable, high frequency service to key destinations along the Luas network, including the city centre and Sandyford. Luas also provides interchange to other transport systems such as buses. Extensive Luas access in Cherrywood is largely the result of planning for the Luas B1 extension discussed in the previous section. This extension was developed specifically to address the needs of passengers to and from Cherrywood.



Figure C-6: Luas Stops 1km Catchment

Whilst Luas meets most of the needs of public transport demand to the north (41%) of Cherrywood, the bus network will be required to serve areas outside the Luas corridor. Figure C-7 shows the extent of the 1km walking catchment of existing N11 bus stops (all combined with the 500m walking catchment from proposed additional bus stops in Cherrywood). As shown, buses sufficiently complement the Luas system, leading to extensive public transport access in Cherrywood.



Figure C-7: N11 Bus Route 1km Walking Catchment

Appendix D Overview of Current Active Travel facilities

A site visit was conducted on March 21, 2024, with the objective of identifying and determining the condition of the existing active travel facilities within the Cherrywood SDZ. The site visit was undertaken using bikes and the weather was slightly overcast. The area covered is bounded by Castle Street Estate to the north, the N11 to the east, the R116 regional road to the south and the M50 to the west. Some streets and areas within the Cherrywood SDZ were not accessible due to ongoing works. The boundary illustrated in red in Figure D-1 below illustrates the resulting area covered during the site visit.

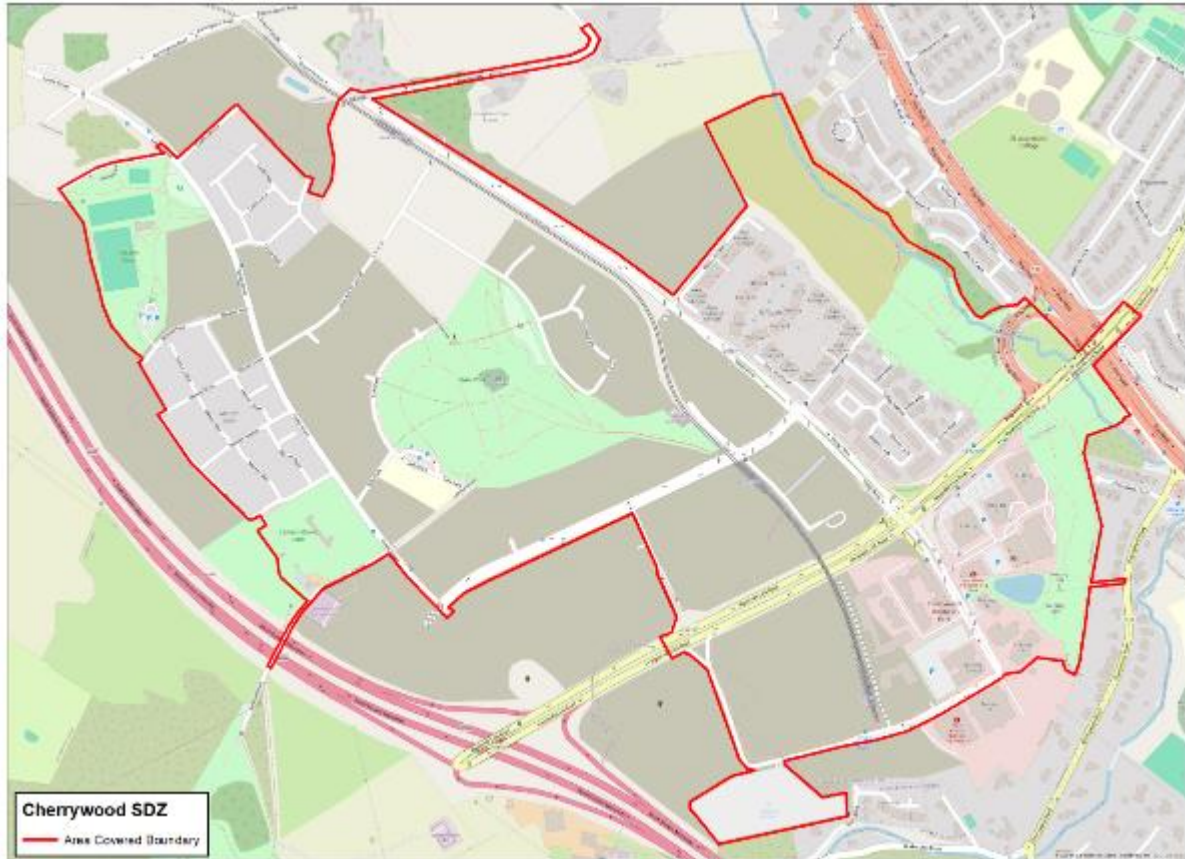


Figure D-1: Area covered within the Cherrywood Planning Scheme

Based on site visit the following was observed within the town centre environment:

D.1 Active Travel Links

D.1.1 Wyattville Link Road

The R118 Wyattville Link Road is one of the main roads in the Cherrywood SDZ and runs from the M50 in the west to the N11 overbridge in the east. It is the only access road to the Cherrywood SDZ from the M50 and N11 and runs links the adjoining areas of Shankill, Ballybrack and Killiney to the M50. The R118 Wyattville Link Road runs through the centre of the Cherrywood town centre and separates the main High Intensity Employment areas in the south of the SDZ from the primary residential areas in the north of the SDZ.

The R118 Wyattville Link Road is a two-way road featuring two general traffic lanes in each direction as well as left and right turning lanes on approaches to junctions, with a central median separating the two traffic directions. To the west of Junction A, a shared facility which caters for pedestrians and cyclists is provided on the southern side of the road, and a two-way, off-road cycle track is provided on the northern side of the road. To the east of Junction A, a footpath and a stepped cycle-track is provided on both sides of the road.

Footpaths, where provided, are generally wide enough to accommodate wheelchair users travelling in opposite directions.



Figure D-2: Island Bus Stop on R118/Cherrywood Park, north roadside

Two-way cycle-tracks are wide enough to facilitate cyclists travelling in opposite directions; however, the lack of footpaths may result in pedestrians encroaching into the cycle-track. Stepped cycle-tracks are wide enough to facilitate overtaking cyclists.



Figure D-3: Two-way cycle track on R118, north roadside

However, it should be noted that the R118 Wyattville Link Road in its current configuration is a hostile environment for active travel users. This link features high vehicle speeds and long, indirect crossings which may deter pedestrians and cyclists from crossing the R118 Wyattville Link Road.



Figure D-4: Wyattville Link Road

D.1.2 Valley Drive

Valley Drive is one of the main roads in the Cherrywood SDZ town centre area and runs from Wyattville Link Road (Junction O) in the south and terminates at the junction with Grand Parade (Junction B).

Valley Drive is a two-way street with a central median separating the two traffic directions. It features a general traffic lane, stepped cycle-track and a footpath in each direction between the Grand Parade Junction (Junction B) and the Bishop Street Junction (Junction A1). Valley Drive features two general traffic lanes, a standard cycle lane and a footpath in the eastbound direction, and one general traffic lane, a bus lane, a stepped cycle-track and a footpath in the westbound direction between Junction A and the Bishop Street Junction (Junction A1).

Footpaths are generally wide enough to accommodate wheelchair users travelling in opposite directions.



Figure D-5: Footpath and standard cycle lane

Cycle lanes are wide enough to facilitate cyclist overtaking, however, during the site visit, vehicles were observed parking in the cycle lanes (see Figure D-6).



Figure D-6: Mandatory cycle lane

D.1.3 Bishop Street

Bishop Street is one of the main roads in the Cherrywood SDZ and runs from Valley Drive in the east and terminates approximately 145m to the east of the of the M50. It runs parallel to the R118 (Wyattville Link Road) and forms the northern boundary of the Cherrywood Town Centre.

Bishop Street is a two-way street featuring a general traffic lane and a bus lane in each direction, with a central median separating the two traffic directions. Footpaths are provided on both sides of the road, with a mandatory cycle lane provided between the footpath and the bus lane for each direction.

Footpaths are generally wide enough to accommodate wheelchair users travelling in opposite directions however, a number of public lighting columns are currently located in the footpath which may obstruct users.

Cycle lanes are wide enough to facilitate cyclist overtaking; however, the lack of vertical segregation may result in vehicles encroaching into the cycle lane. In general, right-turn facilities are not provided for cyclists at junctions, with the exception of the development land located to the north on the western end of Bishop Street, where cycle lane widening is provided (see Figure D-7: Right-turn cycle lane).



Figure D-7: Right-turn cycle lane

D.1.4 Block F

Block F is an office block located at the southern end of the Cherrywood SDZ area.

The area around Block F features a shared facility for pedestrians and cyclists. The shared surface is in good condition and is wide enough to accommodate wheelchair users travelling in opposite directions.



Figure D-8: Pedestrian path around Block F

D.1.5 Cherrywood Business Park

Cherrywood Business Park is located in the southern side of Cherrywood and is accessed via Cherrywood Park from the R118 – Wyattville Link Road. The business park provides a wide range of facilities and services for users; these include a health clinic, a gym, corporate offices and other businesses.

The western section of Cherrywood Business Park is a single carriageway, with one lane running in each direction. The northern side of the western section of Cherrywood Business Park features a wide footpath lined with greenery and benches on either side creating an attractive pedestrian route (see Figure D-9). However, the footpath on the southern side of the western section of Cherrywood Business Park is narrow and may not be passable for two wheelchair users travelling in opposite directions.



Figure D-9: Cherrywood Business Park footpath

The eastern section of Cherrywood Business Park features a shared facility for pedestrians, cyclists and vehicles. This space is designed to encourage low vehicle speeds and results in an attractive environment for pedestrians and cyclists whilst maintaining vehicular access.

D.1.6 Grand Parade South Section (Cherrywood Luas Stop)

Grand Parade is one of the main roads in the area and runs from Bishop Street in the north and terminates approximately 40m to the north of the R118 Wyattville Link Road. It runs parallel to the Valley Drive and passes through the centre of the Cherrywood Town Centre. It provides access to the Cherrywood Luas stop and a number of services such as shops, a gym and apartments.

Grand Parade is still under construction, and it was observed during the site visit that pedestrian and cyclist facilities are disjointed. Where provided, footpaths are wide and attractive, and cycle facilities comprise wide standard cycle lanes. It was observed during the site visit that cars were parking in them as illustrated in Figure D-10.



Figure D-10: Cars parked in cycle lanes on Grand Parade

D.1.7 Cherrywood Avenue – East

This section of Cherrywood Avenue is one of the main roads in the Cherrywood SDZ town centre area and runs from Wyattville Link Road (Junction A) in the north and terminates at the junction with Grand Parade.

Cherrywood Avenue is a two-way street featuring a general traffic lane in each direction, with a central median separating the two traffic directions. Wide footpaths are provided on both sides of the road creating an attractive pedestrian route, with an advisory cycle lane provided between the footpath and the vehicular lane for each direction.

Cycle lanes are wide enough to facilitate cyclist overtaking; however, car parking is provided between the footpath and cycle lane at a number of locations resulting in vehicles encroaching into the cycle lane. There is a buffer area provided which separates the parking bay from the cycle track which increases the safety of cyclists and prevent car users from invading the cycle lane when entering or exiting the vehicle (Figure D-11). At a number of locations, cyclists are diverted onto a shared surface with pedestrians as illustrated in Figure D-12.



Figure D-11: Access to parking bay



Figure D-12: Shared space for pedestrians and cyclists

D.1.8 Cherrywood Avenue – West

This section of Cherrywood Avenue is one of the main roads in the Cherrywood SDZ town centre area and runs from Wyattville Link Road (Junction O) in the north and terminates at the junction with Grand Parade.

Cherrywood Avenue is a wide two-way street featuring a general traffic lane in each direction. A wide shared facility which caters for pedestrians and cyclists is provided on both sides of the road. On-street parking is provided on both sides of the road.



Figure D-13: Shared cycle pedestrian route

D.1.9 Cherrywood Avenue – North

Cherrywood Avenue North is one of the main roads in the area and runs from Bishop Street in the north and terminates at the junction with Wyattville Link Road (Junction O), which is a left-in/left-out junction. It runs parallel to the Grand Parade and passes along the western boundary of Cherrywood Town Centre.

It was noted during the site visit that significant construction is currently being undertaken on Cherrywood Avenue North is still under construction resulting in disjointed pedestrian provision. Where provided, footpaths are wide and attractive.

A two-way, off-road cycle track is provided on the eastern side of the road. Two-way cycle-tracks are wide enough to facilitate cyclists travelling in opposite directions; however, the lack of footpaths may result in pedestrians encroaching into the cycle-track.



Figure D-14: Two-way cycle track

D.1.10 Adjoining Facilities

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

- Segregated one-way cycle lanes and footways on Wyattville Road, crossing the N11 to Wyattville Link Road up to the 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 on the N11 between the Wyattville interchange and the Johnstown Road junction (Kilbogget and Shanganagh Vale).

D.2 Cycle Parking Facilities

Cycle parking facilities are provided throughout the Cherrywood SDZ. In total, 17 cycle parking locations have been identified within the Cherrywood town centre and the high intensity employment areas. An additional 22 cycle parking locations have been identified within the Cherrywood SDZ. All of the identified cycle parking locations are illustrated in Figure D-15.

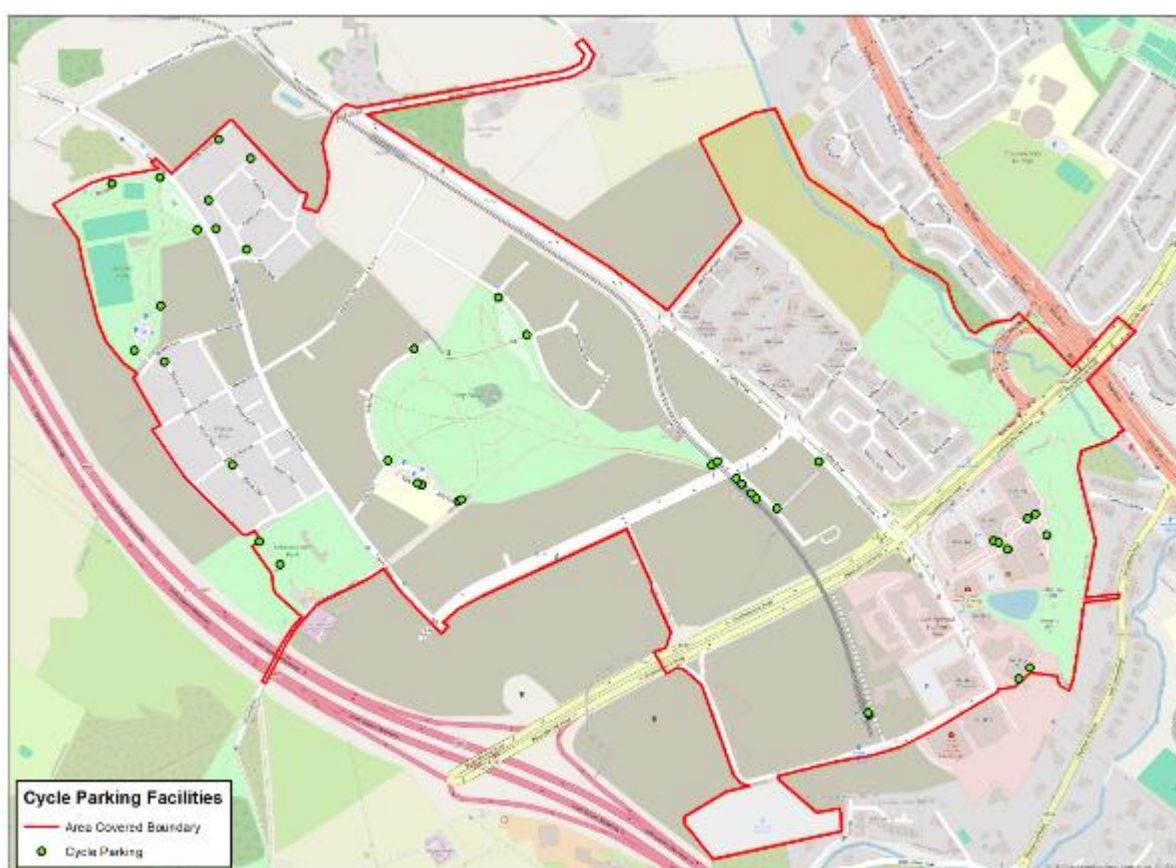


Figure D-15: Cycle Parking Facilities in Cherrywood SDZ

All of the cycle parking within the town centre environment and HIE lands utilised Sheffield stand style bicycle racks which are widely spaced to accommodate all types of bikes, including larger bikes and E-bikes. There is a mix of sheltered parking which is suitable for long-duration parking and unsheltered which is suitable for short-duration parking.

A large number of Sheffield stands are provided at the Cherrywood Luas stop which are predominantly being used by a bike share service. This parking is particularly convenient due to the proximity to retail, and the Luas stop itself, providing an opportunity for modal interchange.

