

APPENDIX 10

Infrastructure Capacity Assessment

1.0 Introduction

Project Ireland (National Planning Framework (NPF) and the National Development Plan NDP) seeks the alignment of spatial planning and capital investment. The NPF requires the capacity of the city's infrastructure to be assessed in accordance with National Policy Objective (NPO) 72a. This NPO requires planning authorities to apply a standardised, two-tier approach to differentiate between land that is serviced (Tier 1 lands) and land that is serviceable within the lifetime of the development plan (Tier 2 lands). This Infrastructure Capacity Assessment allows an informed decision to be made as to whether or not to zone land for residential development as part of the Core Strategy.

This Infrastructure Capacity Assessment has been prepared in accordance with the methodology provided in the NPF and the draft Development Plan Guidelines for Planning Authorities (2021), and has been used to inform the approach to land use zoning taken in the Core Strategy.

This assessment does not comprise an exhaustive list of requisite infrastructures across the city and is not to be relied upon for development management purposes.

2.0 Methodology

The following sections set out an assessment of the capacity of the city's strategic enabling infrastructure, together with more localised infrastructure provided by the City Council.

The assessment focuses predominantly on the provision of infrastructure that is considered to be strategic in nature, as it is considered that the delivery of minor and/or local level infrastructure will be facilitated through the Council's capital investment works or development management process as part of standard developer/ service provider operational works.

This assessment has considered the approved delivery programmes of relevant infrastructure providers in accordance with NPO 73c and Regional Policy Objective (RPO) 5.1.

3.0 Challenges

The strategic infrastructure projects identified in the Eastern and Midlands Region Spatial and Economic Strategy (RSES) are of significance to the future growth of Dublin City and the wider region. The overall water supply and wastewater situation for the Greater Dublin Area (GDA) is critical and urgently requires significant infrastructure investment. The timely provision of integrated region wide public transport projects are also crucial to meeting the prescribed growth targets for Dublin City and region.

The delivery of strategic infrastructure in the areas of transport and water services is ultimately dependent upon government policy, the macro-economic environment and the availability of capital, with such projects being within the remit of external infrastructure providers such as Irish Water and the National Transport Authority. In some instances, the timeframe of these provider’s strategic infrastructure capital investment plans and projects is not aligned with the fixed statutory timeframe of the development plan.

Most of the land targeted for new housing in Dublin City is located in Strategic Development and Regeneration Areas (SDRAs), which are for the most part, brownfield and regeneration sites. These SDRAs are aligned to existing and planned public transport corridors and guided by national policy set out in the NPF and RSES. The full build-out of these strategic areas will accord with the timeframes of the RSES until 2031 and the NPF until 2040, with many running across two or more development plan cycles to reach completion. To achieve this high quality, integrated approach to regeneration, it is critical that all of the envelope of these lands are zoned for development and subject to detailed master planning or local statutory plans that address how they will be delivered over time. This necessary, coordinated approach to brownfield regeneration is recognised in the recently published draft Development Plan Guidelines (2021).

This assessment reflects a point-in-time and it is acknowledged that infrastructure requirements may change. The full extent of requisite enabling infrastructure will continue to be assessed through the development management process whereupon detailed assessment will be undertaken. All reasonable efforts have been made to include infrastructure delivery costings where a verifiable source for same has been identified.

4.0 Strategic Infrastructure

4.1 Water Services Infrastructure

The City Council has engaged with Irish Water (IW) during the plan-making process in order to understand the status and capacity of the city’s water service infrastructure in accordance with the requirements of the draft Water Service Guidelines for Planning Authorities (2018) and draft Development Plan Guidelines (2021).

The Irish Water Services Strategic Plan (2015) sets out a number of key projects to maintain and improve existing water services and service further growth. The following infrastructural investments programmed by IW in its Investment Plan are of particular importance in the context of the strategic growth areas identified in the Core Strategy.

4.1.1 Water Supply

Dublin City falls within the water supply zone for the Greater Dublin Area (GDA) and supply in the region is currently limited. IW are currently progressing a number of projects in order to increase supply and improve water quality standards. The long-term development of the Region will be dependent on the Eastern and Midlands Water Supply Scheme Project.

Table 1: Strategic Water Supply Infrastructure (Source: Irish Water)

Project Name	Project Delivery	Zoning Tier
<p>Eastern Midlands Water Supply Scheme</p> <p>The long-term development of the Eastern and Midland Region (EMR) will be dependent on this project. The NPF provides that a new long-term water supply source for the EMR, which includes the Dublin Water Supply Area, is needed by the mid 2020’s, to provide for projected growth up to 2050 and contribute to resilience and security of supply. The project involves a 170km pipeline with supporting infrastructure (water treatment plant, pumping stations and terminal point reservoir) to ensure that the long-term water supply needs of the Region are met in a sustainable manner. IW has concluded a four-phase public consultation process and identified the preferred scheme:</p> <ul style="list-style-type: none"> • Abstraction of water from the Lower Shannon at Parteen Basin. • Water treatment at Birdhill. • Treated water piped to a termination point reservoir at Peamount in south County Dublin, with supplies of treated water available to Midland communities along the route. 	<p>Identified in the NDP ‘Strategic Investment Priorities 2018-2027’.</p> <p>Estimated cost of €1.2 to €1.3 billion (source: NDP).</p> <p>IW are in the process of preparing a SID planning application to An Bord Pleanála for the scheme.</p>	<p>Tier 1 - All sites subject to connection agreement with Irish Water (in line with existing standard practice).</p>

Figure 1: EMR Water Supply Project (Source: Irish Water)



4.1.2 Wastewater Infrastructure

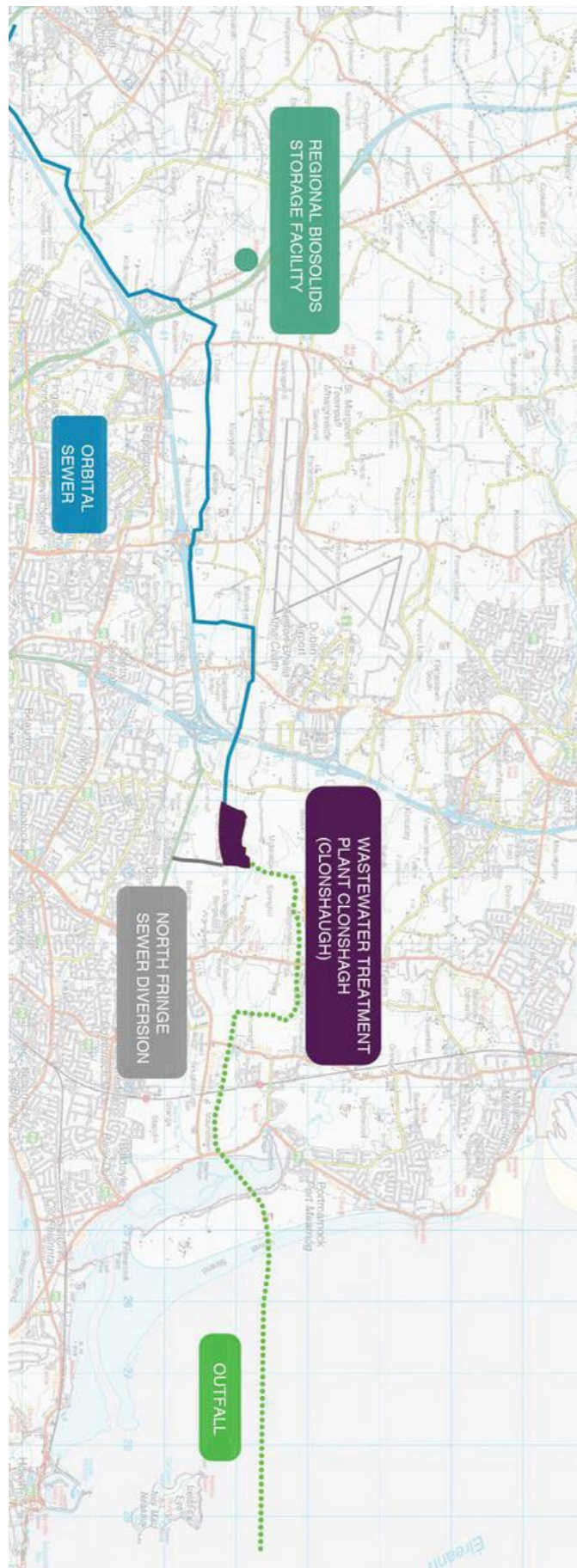
Dublin City is served by Ringsend Waste Water Treatment Plant which is currently undergoing significant upgrades which will allow the plant to treat increasing volumes of wastewater. In the longer term, the GDA will be dependent on the Greater Dublin Drainage Project to free up capacity at the Ringsend plant. Localised pressures on the city’s sewerage system are also being addressed through the proactive management of surface water inflows all facilitated through proactive Council policy (see policies SI22-25).

Table 2. Strategic Wastewater Infrastructure (Source: Irish Water)

Project Name	Project Delivery	Zoning Tier
<p>Ringsend Wastewater Treatment Plant Upgrade Project</p> <p>The Ringsend Waste Water Treatment Plant which, whilst currently overcapacity, is undergoing significant upgrades in response to capacity issues which will allow the plant to treat increasing volumes of wastewater by 2025. This upgrade project will increase the capacity of the Ringsend plant from c. 1.64m population equivalent (PE) to c. 2.4m PE. This will provide for both existing population and future growth, and bring benefits in terms of health, environmental protection and improved water quality. The project includes:</p> <ul style="list-style-type: none"> • Additional secondary treatment capacity. • Works to facilitate the use of aerobic granular sludge technology in the existing secondary treatment tanks. • Expansion of the plant’s sludge treatment facilities. 	<p>Identified in the NDP. Currently under construction and due for completion in 2025. Phased increase in capacity (2.1m PE in 2022 and 2.4m PE in 2025). Estimated cost of c. €400m (source: Irish Water).</p>	<p>Tier 1 - All sites subject to connection agreement with Irish Water (in line with existing standard practice).</p>
<p>Greater Dublin Drainage Project (GDDP)</p> <p>The GDDP aims to provide long-term sustainable wastewater drainage and treatment to facilitate the continued social and economic development of the Region. The project involves the provision of new wastewater treatment works, a marine outfall and a new drainage network in the northern part of the GDA. Together, with the upgrade of the Ringsend Wastewater Treatment Plant, these projects are intended to provide adequate wastewater treatment to serve the GDA to 2050. It is anticipated that the GDDP will provide the additional treatment capacity required from the mid-2020s.</p>	<p>Identified in the NDP within the category ‘Strategic Investment Priorities 2018-2027’. Planning application is under determination. Construction scheduled for 2022-2026. Estimated cost of c. €500m (source: NDP).</p>	<p>Tier 1 - All sites subject to connection agreement with Irish Water (in line with existing standard practice).</p>

Source: Irish Water

Figure 2: GDD Project (Source: Irish Water)



4.2 Transport Infrastructure

4.2.1 Key Public Transport Projects

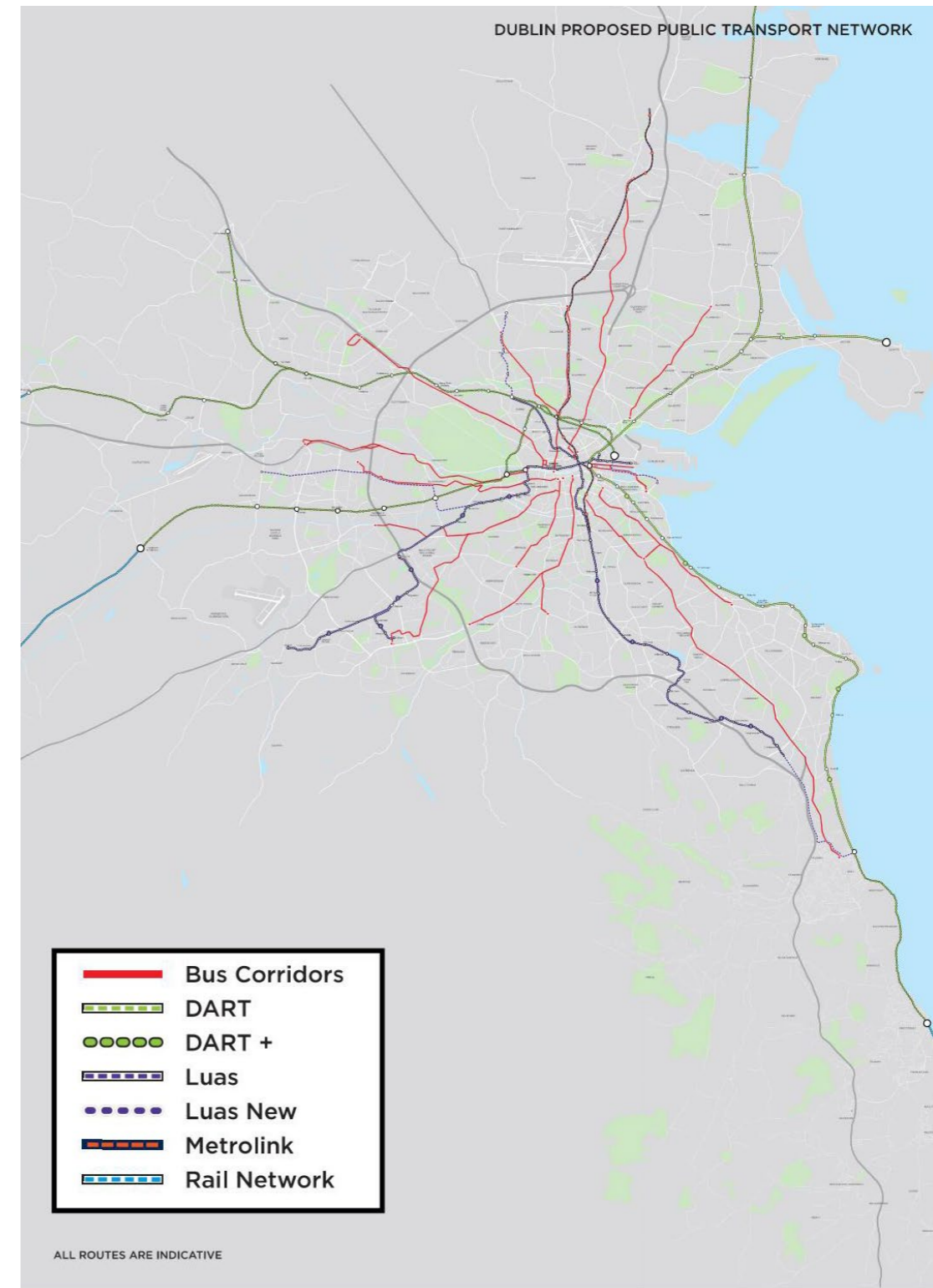
The Transport Strategy for the Greater Dublin Area (GDA) prepared by the National Transportation Authority (NTA), provides for a number of key transport projects of strategic importance which will improve public transport provision across the city, and support ongoing sustainable growth focussed on the integration of land use and transportation. The following projects are of particular importance in the content of the strategic growth areas identified in the Core Strategy.

Table 3: Key Public Transport Projects (Source: NDP and NTA/TII)

Project Name	Project Delivery	Zoning Tier
<p>Luas Green Line Enhancement Project</p> <p>This project is incrementally increasing capacity on the network through a combination of higher frequencies, additional trams and larger rolling stock.</p> <ul style="list-style-type: none"> Phase 1 - involves extending existing trams to increase passenger capacity by c. 30%. Phase 2 - involves increasing tram frequency to every two minutes which would greatly increase carrying capacity. 	<p>Identified in the NDP and the NTA’s Transport Strategy for the GDA 2016-2035. Delivery of tram extensions commenced in Q2 2019 and due to be complete by Q2 2021. Delivery of new trams to commence in Q2 2020 and due to be complete by Q2 2021. Estimated cost c. 100m</p>	<p>Tier 1 - Subject to assessment on site-by-site basis.</p>
<p>Luas to Finglas (2028)</p> <p>The preferred route for the extended Luas Tram line to Finglas has recently been released by TII and NTA with a decision to be made on final alignment. Luas Finglas will create a new public transport connection between the communities of Charlestown, Finglas Village, Finglas west, St. Helena’s, Tolka Valley and the city centre and will include the delivery of new cycle and pedestrian infrastructure.</p>	<p>Identified in the NDP and the NTA’s Transport Strategy for the GDA 2016-2035. NDP commits to undertake appraisal, planning and design of LUAS network expansion to Finglas. Luas likely to become operational by 2028. Cost estimate not currently available</p>	<p>Tier 1 - Subject to assessment on site-by-site basis.</p>

Project Name	Project Delivery	Zoning Tier
<p>BusConnects (2021 – 2023) BusConnects Dublin aims to overhaul the current bus system in Dublin through a 10-year programme of integrated actions to deliver a more efficient, reliable and better bus system. BusConnects includes:</p> <ul style="list-style-type: none"> • Redesign of the bus network with high frequency spines, orbital routes and increased bus services. • New cycle network. • New ticketing and cashless payment system. • New bus stops and shelters with better signage and information. • Bus-based park and rides in strategic locations. • New bus livery and transitioning to a new bus fleet with low emission vehicle technologies. 	<p>The NDP commits to the delivery of the full BusConnects programme during the period to 2027. Project is at public consultation stage. Estimated cost of €2billion (source: NDP).</p>	<p>Tier 1 - Subject to assessment on site-by-site basis.</p>
<p>Metrolink: Metro to Ballymun (and onto Dublin Airport/ Swords) (2021 - 2027) MetroLink is the proposed high-capacity, high-frequency, automated rail line running from Swords to Charlemont, linking Dublin Airport, Irish Rail, DART, Dublin Bus and Luas services, creating fully integrated public transport in the Greater Dublin Area. As well as linking major transport hubs, MetroLink will connect key destinations including Ballymun to the city centre.</p>	<p>TII due to apply for Railway Order in 2021. 12-18 month planning process will commence once Railway Order granted and following this, work can commence on site. It is anticipated that it will take between 6-8 years to complete. Estimated cost is €3 billion (source: NDP)</p>	<p>Tier 1 - Subject to assessment on site-by-site basis.</p>

Figure 3: Greater Dublin Area Public Transport Network 2027 (Source: National Development Plan 2018-2027)



5.0 City Scale Infrastructure

5.1 Roads and Bridges

It is acknowledged that new street/ road infrastructure and improvements to existing streets/ roads will be required over the period of the development plan and in some instances, the development of new areas is predicated on the delivery of new street/ road connections such as the new networks in Belmayne, Ballymun, and Cherry Orchard.

New bridge infrastructure will also facilitate the continued development of the city such as the Dodder Public Transport Bridge, which is linked to development of the Poolbeg West Strategic Development Zone (SDZ), and pedestrian/cycle bridges which will improve connectivity between the north and south docklands areas.

The Dublin Tunnel is a road traffic tunnel which forms part of the M50 motorway and serves as a key route for heavy goods vehicles (HGVs) travelling to and from Dublin Port. Dublin City Council, working together with Transport Infrastructure Ireland, recognises the need to safeguard the structural integrity of the existing Dublin Tunnel from developments.

The Council's commitments in respect to roads and bridge infrastructure are fully detailed in Objective SMTO23.

5.2 Active Travel – Walking and Cycling

To make active travel an attractive alternative choice to car-based transport on the existing public road network, and to facilitate the 15 minute city concept of creating active, healthy communities with ease of access to amenities and services, certain critical factors are required.

A significant allocation of Government funding was announced in 2021 for investment in walking and cycling and Dublin City Council is committed to supporting the roll out of the relevant infrastructure within the lifetime of this plan in line with Objectives SMTO7-12 1 and SMTO23-28.

The City Council will support the development of mobility hubs, the aim of which is to encourage varied and sustainable types of transport in areas that are close to existing public transport links with high concentrations of employment, housing, shopping, amenities and recreation (see policy SMT5). A mobility hub is a place of connectivity where different travel options such as walking, cycling, public transport and shared mobility services, are located together to facilitate ease of access and transition between transport modes. Together with quality

public realm and place making, mobility hubs can help create vibrant and liveable places to support the transportation experience.

This City Council is seeking to increase the mode share of cycling and to support a cycling culture in the city by continuing to expand the cycle network, bike share schemes, cycling promotion campaigns, speed calming measures and increased publicly accessible cycle parking. The City Council will continue to work with the NTA's 'Cycle Network Plan for the Greater Dublin Area' and its forthcoming review in order to develop a more comprehensive cycle network in accordance with policy SMTO8.

The Council are also committed to providing accessibility for all and to improving the city's pedestrian infrastructure through the development management process. Policy SMT10 seeks to deliver on this objective to protect, improve and expand on the pedestrian network inclusive of facilities for people with mobility impairment and/ or disabilities linking key public buildings, shopping streets, public transport points and tourist and recreational attractions.

5.3 Surface Water Drainage Infrastructure

The City Council is actively working with IW to rehabilitate and upgrade the city's water main infrastructure through the roll out of Drainage Action Plans, higher drainage infrastructure design standards and by requiring the separation of foul and surface water drains as part of all new developments. The Council have also implemented a range of new Surface Water Management and Sustainable Drainage Systems (SuDS) development management policies which seek to encourage nature-based solutions to managing surface water at local level in order to reduce the overall volume of surface water run-off and improve water quality of our rivers in line with the requirements of the Water Framework Directive.

5.4 Community Infrastructure

The NPF tiered approach to zoning does not focus on the community infrastructure element but it is considered of importance in creating sustainable neighbourhoods.

Dublin City Council is responsible for the provision of local community infrastructure such as sports facilities and public realm, with capital investment in the city's local and community infrastructure governed by the Council's rolling three-year Dublin City Capital Programme (2019-2021). The programme is informed by the objectives of the development plan and supported by a number of associated

development contribution schemes designed to use the development management process to fund its capital projects to deliver greater community amenities and placemaking in line with the 15 minute city concept. The development plan has also introduced the requirement for a community and social audit to be undertaken in support of all residential applications comprising 50 or more units (policy QHSN46) in order to identify whether there is a need to provide additional facilities to cater for the proposed development.

The Council has also undertaken consultation with the Department of Education as part of the plan-making process to ensure that sufficient land is provided to meet the need for new schools and/ or expansion of existing schools, in line with the requirements of anticipated population growth.

6.0 Core Strategy

6.1 Metropolitan Area Strategic Plan (MASP)

The RSES Metropolitan Area Strategic Plan (MASP) for Dublin identifies a regional framework which aligns population and employment growth in designated Strategic Development Areas (SDAs) with associated transport and infrastructure investment priorities.

A key aim of the MASP is to unlock the development capacity of the SDAs by identifying the sequencing of enabling infrastructure. A phased sequence of infrastructure investment is identified to enable the accelerated delivery of strategic development corridors; within the short term to 2026; the medium term to 2031; and in the long term to 2040.

MASP identifies a number of large scale strategic sites (strategic development lands) based on key corridors that will deliver significant development (housing and employment development) up to the year 2031. The strategic housing development lands within the City Council's area identified in the RSES are as follows:

Table 4: MASP Strategic Development Areas (Residential) – Relevant to Dublin City Council functional area

Corridor	Residential Areas	Phasing/Enabling Infrastructure
Multi-Modal Location - City Centre within the M50	Docklands / North East Inner City' lands	Short to Medium term: Dodder bridge, LUAS extension to Poolbeg, local and wider area water upgrades, waste water upgrades and district heating.
	City Centre / Parkwest – Cherry Orchard / St. James – Heuston Lands / Ashtown-Pelletstown / Ballymun	Short to Medium term: Waste water upgrades, social infrastructure. Long term: Long term capacity supported by DART underground.
	Naas Road/ Ballymount	Medium to Long term: Multi-modal public transport, new Luas stop, site assembly, waste water upgrades and local area water network upgrades.
DART Corridor (North South)	North Fringe (Clongriffin / Belmayne)	Short to Medium term: Access to rail station, bus upgrades, new road connections, drainage, parks and social infrastructure.

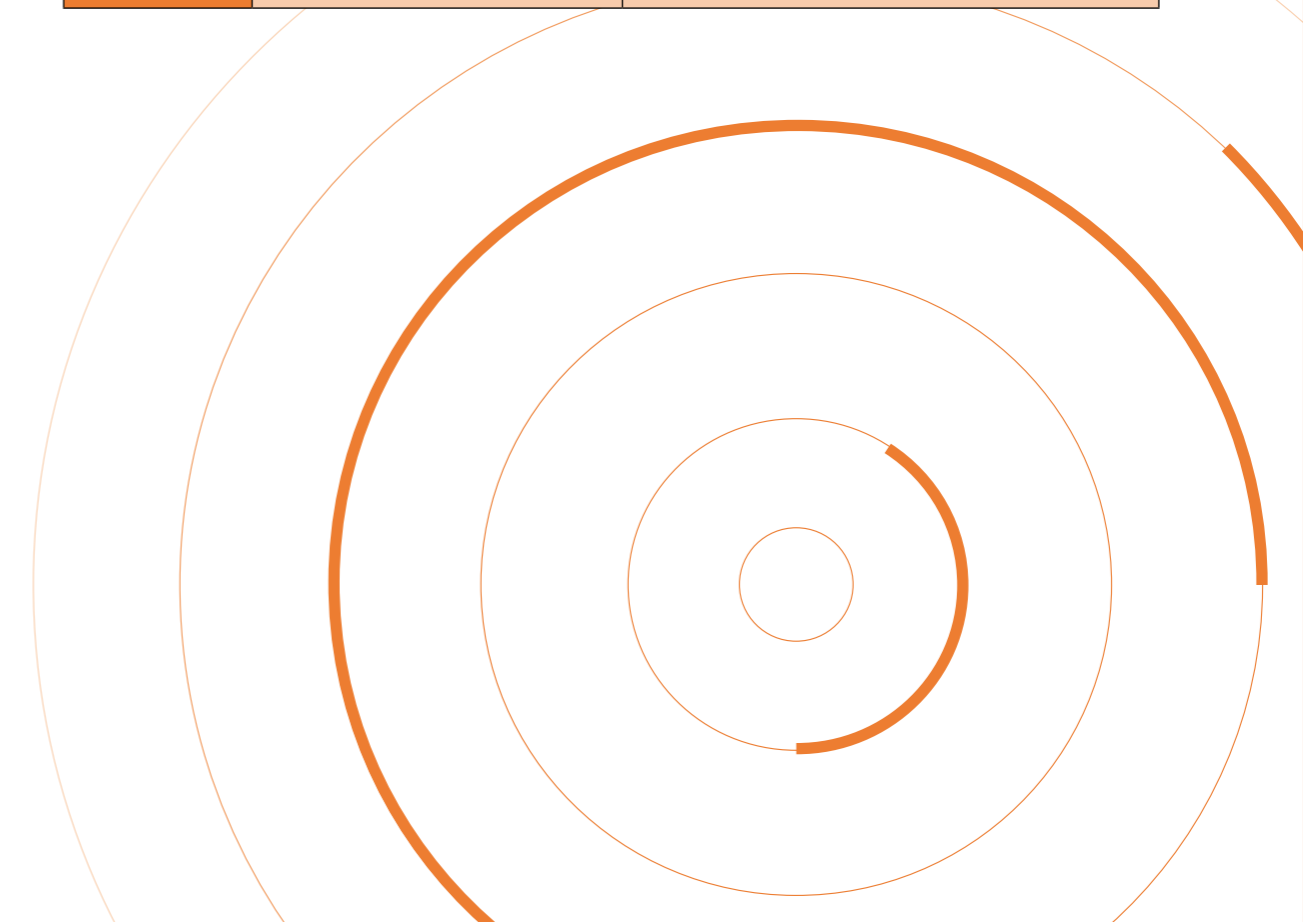


Figure 4: Dublin Metropolitan Area Strategic Plan



The development plan’s SDRAs are aligned with the MASP SDAs and are, for the most part, informed by short to medium term phasing schedules capable of being implemented over the lifetime of the development plan (as illustrated by Tables 2, 3 and 4 above).

Table 5: Capacity of SDRAs Designated Lands for Residential Use or a Mixture of Residential and Other Uses

SDRA Ref.	City Area Name	Estimated housing capacity
SDRA 1	Clongriffin/Belmayne and Environs	6,950 - 7,350
SDRA 2	Ballymun	2,200 - 2,350
SDRA 3	Finglas Village Environs and Jamestown Lands	2,800
SDRA 4	Park West/Cherry Orchard	2,500 - 3,100
SDRA 5	Naas Road	3,300
SDRA 6	Docklands	7,900
SDRA 7	Heuston and Environs	1,250
SDRA 8	Grangegorman/Broadstone	500
SDRA 9	Emmet Road	1,050
SDRA 10	North East Inner City	850
SDRA 11	St. Teresa’s Gardens	950
SDRA 12	Dolphin House	350
SDRA 13	Markets Area and Environs	400
SDRA 14	St. James Medical Campus and Environs	-
SDRA 15	Liberties and Newmarket Square	2,500
SDRA 16	Oscar Traynor Road	850
SDRA 17	Werburgh Street	100
	Total	34,350 - 35,550

All SDRAs lands identified in Table 5 above are aligned with the RSES SDAs and have a short to medium term phasing schedule which can be implemented at any time independently, with the exception of the Kylemore Road/Naas Road lands which are given a medium to long term phasing schedule by RSES. Notwithstanding this, SDRAs 5 – Naas Road (former LAP lands) will be implemented in the short term, reflecting the long standing zoning of this area for regeneration purposes.

6.2 Other Lands

National and regional policy places an emphasis on compact growth and supports the sustainable development of brownfield and infill lands, through consolidation to support the optimal use of the finite resource of land.

Infill opportunities on vacant sites within zoned areas across the city which are likely to come forward during the lifetime of the development plan, will also play an important role in contributing to meeting the housing targets and is recognised within the Core Strategy.

The implementation of a proactive land and development management strategy, enhanced partnership-working and coordination, and the effective utilisation of URDF funding, will be crucial to achieving the delivery of c. 13,600 housing units on these non-SDRA lands.

6.3 Future Development Areas

The RSES applies a medium to long term phasing schedule to the Naas Road/ Kylemore Road/ Ballymount lands in response to their large scale and requirement for significant transport and water services infrastructural investment and further statutory planning. The development plan has responded by identifying these lands, together with the Glasnevin (Dublin Industrial Estate) lands, as 'future development areas'. It is the intent of the Council that, following feasibility studies and/or the preparation of a Local Area Plan (or, if designated, a Strategic Development Zone) as per Objectives CSO1 and CSO2, that these industrial lands will be brought forward as regeneration lands during the lifetime of the development plan. In line with the NPF and draft Development Plan Guidelines (2021), any feasibility carried out on these lands over the course of the development plan period will include an infrastructure capacity assessment.

7.0 Assessment Conclusion

Dublin City is exceptional in that the entire development plan area is fully zoned and located within the built-up metropolitan area of Dublin. Whilst there may be local infrastructural needs and upgrades needed for certain sites, all lands within Dublin City are capable of being serviced and/ or are connected to public water services and other essential infrastructure. All are located proximate to public transport networks and public road and cycle routes.

Table 6: Settlement Capacity Audit – Summary Table

Tier	Settlement	Existing Population	Potential Housing Estimate
Tier 1 - Serviced lands	Dublin City other lands (excluding SDRAs)	595,434 (2020, CSO Estimate)	13,600
	Dublin City SDRA lands		34,350 - 35,550
Tier 2 - Serviceable lands	Potential lands at Glasnevin & Naas Road, Phase 1		6,000