

METROLINK

EIAR Chapter 11 – Population and Land Use

Operational Stage Impact on Development Potential

- 1 As noted in section 11.5.3.3.3 of the EIAR (Development Potential/Capacity), the proposed project will significantly enhance the connectivity and accessibility of areas within its vicinity, directly influencing the development potential of these locations.
 - 1.1 This improvement in access is expected to make adjacent sites more attractive for development, particularly for high-density residential, commercial, and mixed-use projects.
 - 1.2 The proximity to MetroLink stations will be a key factor in site selection for developers, potentially increasing land values and investment interest in these areas – as other transport projects, nationally and internationally have shown.
- 2 Since submission of the Railway Order, new '*Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities*' (2024 DHLGH) have been published. These state that the '15 minute city' should be the overarching objective when planning for sustainable residential development and compact settlements.
 - 2.1 In the case of larger settlements, the Guidelines state that the residents of less central neighbourhoods should have opportunities to travel by public transport and other sustainable modes (e.g. greenways) to access higher order services, employment and amenities at more central and accessible locations. This will reduce the need for travel by private car, supporting the transition to a lower carbon society and the creation of settlements that are more socially inclusive.
 - 2.2 The Guidelines further note that, to achieve compact growth, it will also be necessary to increase the scale of new buildings in all parts of our cities and towns, with highest densities at the most central and accessible urban locations, particularly in city centres and close to public transport nodes and interchanges.
 - 2.3 Based on this compact growth objective, the Guidelines set out residential density ranges envisaged for Dublin City and suburbs on page 22 Table 3.1 'Areas and Density Ranges Dublin and Cork City and Suburbs', as extracted below (in Table 1):

Table 1: Relevant extracts from '*Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities*' (2024 DHLGH)

City - Centre The city centres of Dublin and Cork, comprising the city core and immediately surrounding neighbourhoods, are the most central and accessible urban locations nationally with the greatest intensity of land uses, including higher order employment, recreation, cultural, education, commercial and retail uses. It is a policy and objective of these Guidelines that residential densities in the range 100 dph to 300 dph (net) shall generally be applied in the centres of Dublin and Cork.
City - Urban Neighbourhoods The city urban neighbourhoods category includes: (i) the compact medium density residential neighbourhoods around the city centre that have evolved overtime to include a greater range of land uses, (ii) strategic and sustainable development locations ⁷ , (iii) town centres designated in a statutory development plan, and (iv) lands around existing or planned high-capacity public transport nodes or interchanges (defined in Table 3.8) – all within the city and suburbs area. These are highly accessible urban locations with good access to employment, education and institutional uses and public transport. It is a policy and objective

of these Guidelines that residential densities in the range 50 dph to 250 dph (net) shall generally be applied in urban neighbourhoods of Dublin and Cork.

City - Suburban/Urban Extension

Suburban areas are the lower density car-orientated residential suburbs constructed at the edge of cities in the latter half of the 20th and early 21st century, while urban extension refers to the greenfield lands at the edge of the existing built up footprint that are zoned for residential or mixed-use (including residential) development⁸. It is a policy and objective of these Guidelines that residential densities in the range 40 dph to 80 dph (net) shall generally be applied at suburban and urban extension locations in Dublin and Cork, and that densities of up to 150 dph (net) shall be open for consideration at 'accessible' suburban / urban extension locations (as defined in Table 3.8).

- 2.4 A 'High Capacity Public Transport Node or Interchange' is defined as *lands within 1,000 metres (1km) walking distance of an existing or planned high capacity urban public transport node or interchange, namely an interchange or node that includes DART, high frequency Commuter Rail, light rail or MetroLink services; or locations within 500 metres walking distance of an existing or planned BusConnects 'Core Bus Corridor' stop*. It is noted that highest densities should be applied at the node or interchange and decrease with distance.
- 2.5 It is therefore envisaged by the Guidelines that MetroLink will significantly improve the accessibility of the locations along the alignment and enable the compact growth of surrounding neighbourhoods to offer improved access to services and amenities, better integration with existing infrastructure and public transport, more efficient use of land, and facilitate and support a transition to lower carbon living.
- 2.6 According to the Guidelines, MetroLink - with its provision of high capacity public transport node and interchange - could facilitate increased residential density in Dublin City Centre of 100 dph to 300 dph and in urban neighbourhoods of 50 dph to 250 dph (dwellings per hectare), benefiting the lands within 1,000 metres (1km) walking distance of its alignment.
- 2.7 **Chapter 11's assessment of operational phase impacts is in alignment with the subsequently released guidelines and we believe our evaluation of impacts to therefore remain valid** (please note section 5 of this note additionally however).
- 2.8 Consistent with this objective of both Fingal County Council and Dublin City Council to achieve higher density development in terms of land use utilisation and redevelopment, the delivery of MetroLink, and its operation across its lifetime, will enable to a much greater extent such density considerations over and above other forms of supporting infrastructure (such as the reduced distance under bus corridors).
- 3 During the consultation processes, a number of landowners correctly observed there will also be impacts on and challenges to the development potential of some sites arising from MetroLink's operation.
- 3.1 Buildings to be developed directly over or adjacent to MetroLink alignment may either
- (a) be constrained in terms of their design, or
 - (b) have to adopt specialised approaches to design and construction, to mitigate any potential adverse effects on MetroLink's infrastructure.
- 3.2 In both instances of constraint, approaches have been successfully deployed in other cities to allow for major oversite developments.
- 3.3 A non-exhaustive review of a number of similarly sized European cities shows that there are well-developed examples where metro systems have been fully integrated with the public transport network in context of relative constraints being applied to property.
- 3.4 By evaluating the population of these areas, it is observed that high levels of residential density can be achieved, for example in:
- Prague, which has an approx. population of ~1.3m in 2023, at a density of ~4,600 people per sq kilometre;
 - Oslo, which has an approx. population of ~1m in 2023, at a density ~3,919 people per sq kilometre;
 - Turin, which has an approx. population of ~844,000 in 2023, with a density of ~6,500 people per sq kilometre;

- Valencia, which has an approx. population of ~838,000 in 2023, with a density of ~5,772 people per sq kilometre; and
- Barcelona, which has an approx. population of ~1,6m in 2023, with a density of ~16,000 people per sq kilometre.

- 3.5 Dublin's own density by comparison sits at approx. 4,588 people per sq. kilometre. By developing the MetroLink, Dublin will be provided with the enabling infrastructure to bring it not only into line with these existing cities, but larger European capitals which have higher density norms in part due to a fully integrated transport network.
- 4 TII ~~is in the process of developing a~~ has prepared an "Outline Guidance Note for Developers", ~~which will be published following the potential grant of a Railway Order for MetroLink, and which may be the subject of bye-laws. The proposed guidance~~ (March, 2024), hereinafter called the "Guidance Note", which forms an asset protection approach developed by TII to ensure the integrity of the structures of MetroLink are safeguarded throughout their life in the context of adjacent development which may arise from time to time. This Guidance Note is designed to facilitate future adjacent or over-site development while protecting the integrity and safety of the MetroLink works and operations.
- 4.1 This Guidance Note ~~would define~~ has defined 'exclusion' and 'protection' zones, loading conditions and or/processes to help ensure that the MetroLink subsurface assets are protected from the impact of third-party development activities.
- 4.2 The foundations of any development must be designed to prevent unacceptable stresses being induced in the tunnel and other structures:
- U Section profile, retained cut profile, cut and cover profile, retained cut stations, underground stations, portals and shafts have been designed with an imposed surcharge loading of 20kN/m².
 - The tunnel lining design has been prepared on the basis that the bored and mined tunnels are able to carry a surcharge load of 75kN/m².
- 4.3 Developers who wish to build in the proximity of MetroLink should consult and review with TII their structural and foundation proposal to prevent unacceptable stresses being induced in the tunnel and other structures.
- 5 In light of the ~~consultation~~ Guidance Note, and the potential for constraints arising, consideration has been given to whether it is necessary to change the assessment of the effects of the project on Land Use during the operational phase.
- 5.1 Section 11.5.3.5.3 (Land Use) notes that "the operation of the proposed Project will not directly impact on Land Use; however, the provision and operation of the proposed Project will indirectly increase development capacity and facilitate future development within the Study Area."
- 5.2 It continues, by stating that "the likely significant effects on Land Use and associated impacts on the Population during operation of the proposed Project are therefore considered to be neutral and imperceptible."
- 5.3 Given the potential for constraints arising within exclusion and protection zones, however mitigated and managed, it is necessary to revise the conclusion on Land Use effect in Chapter 11, ~~but only with regard to locations within any to be~~. Accordingly, the conclusion for Section 11.5.3.5.3 Land Use within defined exclusion and protection zones.
- ~~5.4 The conclusion for Section 11.5.3.5.3 Land Use~~ has changed from "neutral and imperceptible" to "*neutral, imperceptible/not significant and permanent*."
- 5.4 ~~5.5~~ For clarity, we would note that there was an unintended omission of the "duration of effect" for Land Use in the existing Chapter. The inclusion of 'permanent' as a duration should have been specified, and this is included in the above revised effect.

- 5.5 ~~5.6~~ Given that the Guidance ~~is only in draft form and subject to change, and the~~ Note has defined varying ~~delineation~~ delineations on size and extents of eventual exclusion and protection zones ~~is to be determined~~, the reassessment and consideration of effect (by quality, significance and duration) for the purpose of Chapter 11 is consistent with the EPA Guidelines for assessing likely effects (as set out in Section 11.3.6).
- 5.6 ~~5.7~~ We do not believe the quality of effect 'neutral' requires adjustment. The effect of this potential constraint does not reduce the quality of the environment (to negative) for the purposes of land use, i.e. there are no consequent impacts to the defined land use activity– only potential constraints to the type and form of development proposed.
- 5.7 ~~5.8~~ Existing land use is not sterilised, and redevelopment is not prohibited as a result of such constraints.
- 5.8 ~~5.9~~ While it is acknowledged that there will be some "significance of effect", as categorised by the EPA Guidelines on land use, due to the application of exclusion and protection zones in places where lands are not acquired by the Project, this effect is likely to range between 'imperceptible' and 'not significant'. ~~However,~~ While this will depend ~~entirely~~ on the type and form of development proposed ~~and the precise terms of the guidance once finalised and published, it will in most cases be possible to modify the design of any proposed development so as to work around the constraints provided for in the Guidance Note.~~ 'Not significant' is the upper range to our assessment in this case, as there can potentially be noticeable changes in the 'character' of the environment without significant consequences to it (for land use), as per the guideline definition.
- 5.9 ~~5.10~~ The following table (Table 2) provides an outline of our reassessment of the impact of the ~~proposed guidance~~ Guidance Note on the basis of alignment type, land use type, residential or non-residential and the interaction across the operational phase lifetime where density may vary from existing density and use, or increase or change.

Table 2: Review of significance and effect of potential constraints in operational phase

Review of Quality, Significance and Duration of Potential Effects (based on EPA Guidelines for EIAR 2022) As applicable to potential constraints with regard to locations falling <i>within to be defined exclusion and protection zones</i>				
Construction Type	Land Use Type			
	Residential		Non-Residential	
	Existing Density and Use	Increased Density and/or Changed Use¹	Existing Density and Use	Increased Density and/or Changed Use

¹ Given the multitude of existing land use types as zoned for, and the potential for reconfiguration, rezoning, and environmental change in the future throughout the operational lifetime of the Project, it is deemed only feasible to consider the potential for change, over changes to specific other use types from existing.

Cut & Cover	Neutral, Imperceptible/Not Significant ² , Permanent	Neutral, Imperceptible/Not Significant, Permanent	Neutral, Not Significant, Permanent	Neutral, Not Significant, Permanent
Incline	n/a	n/a	n/a	n/a
Retained Cut	Neutral, Imperceptible/Not Significant, Permanent	Neutral, Imperceptible/Not Significant, Permanent	Neutral, Not Significant, Permanent	Neutral, Not Significant, Permanent
Surface	Neutral, Imperceptible/Not Significant, Permanent	Neutral, Imperceptible/Not Significant, Permanent	Neutral, Not Significant, Permanent	Neutral, Not Significant, Permanent
Tunnel	Neutral, Imperceptible/Not Significant, Permanent	Neutral, Imperceptible/Not Significant, Permanent	Neutral, Not Significant, Permanent	Neutral, Not Significant, Permanent
Viaduct	n/a	n/a	n/a	n/a

² This will be entirely dependent on the type and form of development proposals. It is likely that where an effect to arise, it would cause noticeable changes in the character of the environment but without significant consequences (EPA Guidelines definition) – as construction constraints addressed by design and technology approaches are not prohibitive factors for land use in and of themselves.

- 6 In summary, MetroLink's operation will enable new opportunities for development and urban renewal, while also potentially presenting certain development constraints that will need to be managed carefully.
- 6.1 **The impact to Population and Land Use for the Project overall continues to be of a positive nature, contributing to the Study Area economic growth and enhancing the quality of urban life in a variety of ways.**
- 6.2 **Aside from a limited number of demolitions and acquisitions required for the design, Chapter 11 continues to conclude that there are no residual negative impacts anticipated in its view, above a moderate degree of significance (with appropriate mitigations considered).**

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