

Chapter 3:

Population and Human Health

3.0 POPULATION AND HUMAN HEALTH

3.1 INTRODUCTION

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR and has replaced 'Human Beings' with 'Population and Human Health'.

This chapter of the EIAR was prepared by Paul Turley, BA, MRUP, Dip Environmental & Planning Law, MIPI, of John Spain Associates, Planning & Development Consultants. In preparing this chapter we have regard to the other inputs to this EIAR and the application, in particular the chapters addressing Air Quality and Climate, Noise and Vibration and Daylight and Sunlight Assessments, and the separate reports addressing Construction and Demolition Waste Management and the Construction Management Plan.

Population and Human Health comprise an important aspect of the environment to be considered. Any significant impact on the status of human health, which may be potentially caused by a development proposal, must therefore be comprehensively addressed.

Population and Human Health is a broad ranging topic and addresses the existence, activities and wellbeing of people as groups or 'populations'. While most developments by people will affect other people, this EIAR document concentrates on those topics which are manifested in the environment, such as new land uses, more buildings or greater emissions.

3.2 STUDY METHODOLOGY

At the time of writing there is no specific guidance from the EU Commission on the 2014 EIA Directive to indicate how the new term 'Human Health' should be addressed. Therefore this chapter of the EIAR document has primarily been prepared with reference to recent national publications which provide guidance on the 2014 EIA Directive including the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) and the Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in August 2017.

The preparation of this chapter has also had regard to the guidance published by the European Commission in 2017 on the preparation of EIARs (taking account of the changes introduced under the 2014 Directive). The European Commission guidance states the following in relation to the assessment of Human Health:

"Human health is a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population."

In accordance with this approach to Human Health espoused in the Commission Guidance, this chapter addresses human health in the context of other factors addressed elsewhere in further detail within the EIAR where relevant. Relevant factors identified include inter alia water, air quality, noise, and the risk of major accidents and disasters.

The insight provided by the IEMA high level primer document (2017) has also been considered in the preparation of this chapter. The IEMA document posits that human health spans environmental, social and economic aspects and does not merely represent an absence of disease. A broad conception of human health is put forward, that should encompass factors such as local economy and community, rather than relying on a narrower focus on biophysical health factors and determinants. In this regard, the

current chapter seeks to address population and human health in a wholistic manner, including consideration of economic factors, settlement patterns, landscape and visual impact, and land-use.

The 2018 EIA Guidelines published by the DHPLG state that there is a close interrelationship between the SEA Directive and the 2014 EIA Directive. The Guidelines state that the term 'Human Health' is contained within both of these directives, and that a common interpretation of this term should therefore be applied.

To establish the existing receiving environment / baseline, several site visits were undertaken to appraise the location and likely and significant potential impact upon human receptors of this proposed development. A desk-based study of published reference documents such as Central Statistics Office Census data, the ESRI Quarterly Economic Commentary, the *Regional Spatial and Economic Strategy for the Eastern and Midlands Regional Assembly, 2019*, the *Dun Laoghaire Rathdown County Development Plan 2016-2022* and the *Blackrock LAP 2015-201* was also carried out in preparing this EIAR and completed in August 2020.

It should be noted that there are numerous inter-related environmental topics described throughout this EIAR document which are also of relevance to Population and Human Health. Issues such as the potential likely and significant impacts of the proposed development on townscape and visual impact, daylight and sunlight, archaeology and cultural heritage, air quality and climate, noise and vibration, water, land and soils, microclimate, material assets including traffic and transport impacts, are of intrinsic direct and indirect consequences to human health. For detailed reference to particular environmental topics please refer to the corresponding chapter of the EIAR and other accompanying application reports.

The Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA states that *'in an EIAR, the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil etc'*.

This chapter of the EIAR document focuses primarily on the potential likely and significant impact on Population, which includes Human Beings, and Human Health in relation to health effects/issues and environmental hazards arising from the other environmental factors. Where there are identified associated and inter-related potential likely and significant impacts which are more comprehensively addressed elsewhere in this EIAR document, these are referred to. The reader is directed to the relevant environmental chapter of this EIAR document for a more detailed assessment.

3.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SITUATION)

3.3.1 Introduction

A description of the relevant aspects of the current state of the environment (baseline scenario) in relation to population and human health is provided below. Specific environmental chapters in this EIAR provide a baseline scenario relevant to the environmental topic being discussed. Therefore, the baseline scenario for separate environmental topics is not duplicated in this section; however, in line with guidance provided by the European Commission, the EPA and the DHPLG, the assessment of impacts on population and human health refers to those environmental topics under which human health effects might occur, e.g. noise, water, air quality etc.

An outline of the likely evolution without implementation of the project as regards natural changes from the baseline scenario is also provided. This is the "Do Nothing" scenario.

The existing environment is considered in this section under the following headings:

- Economic Activity
- Social Patterns;
- Land Use and Settlement Patterns;
- Employment;
- Health & Safety; and
- Risk of Major Accidents and Disasters.

3.3.2 Economic and Employment Activity

The CSO's Quarterly Labour Force Survey (which has now replaced the Quarterly Household Survey) for Q2 2020, indicated that there was an annual decrease in employment of -3.4 % or 77,600 in the year to the second quarter of 2020, bringing total employment to 2,222,500. This compares with an annual increase of 2.2% or 51,500 in employment in the previous quarter and an increase of 2.0% or 45,000 in the year to Q2 2019. This includes those in receipt of the Pandemic Unemployment Payments.

The decrease in total employment of 77,600 in the year to Q2 2020 was represented by a decrease in full-time employment of 19,800 (-1.1%) and a decrease in part-time employment of 57,800 (-12.5%) representing a decline in the quality and quantity of employment in the economy.

Unemployment decreased by 12,000 (-9.2%) in the year to Q2 2020 bringing the total number of persons unemployed to 118,700.

Employment increased in 6 of the 14 economic sectors over the year (excluding Not stated). The largest rate of increase was recorded in the Financial, insurance and real estate activities sector (1% or 19,300).

The overall unadjusted unemployment rate decreased from 5.4% to 5.1% over the year to Q2 2020. The total number of persons classified as long-term unemployed decreased by 15,200 (-37.1%), bringing total long-term unemployment to 25,700.

The ESRI's *Quarterly Economic Commentary* previously indicated that unemployment is expected to decline to 4.6 per cent in 2020. In the latest *ESRI's Quarterly Economic Commentary for Summer 2020* unemployment is expected to rise to 17%. However, this is in response to unprecedented uncertainty of the COVID-19 Virus related economic trends, and unemployment is expected to fall back to just under 11% by the end of the year. This is based on a scenario analysis as opposed to a traditional forecast and examines the impact of the current restrictions.

The above sources demonstrate that the national economy and employment levels, whilst currently experiencing unprecedented uncertainty related to the Covid-19 virus, it is expected to experience economic growth again further through 2020. The Government is faced with the challenge of recovering economic activity and employment levels, which in turn is expected to result in an increased demand for residential dwellings particularly within the Dublin region.

3.3.3 Social Patterns

This section explores the characteristics of the area from a socio-economic perspective, drawing on the most recently available statistical information from Census 2016 and other sources.

The proposed development site at Frascati Centre is situated within the Electoral Division (ED) of Blackrock Central.

The CSO data illustrates that the population of the Irish State increased between 2011 and 2016 by 3.8%, bringing the total population of the Irish State to 4,761,865. The rate of growth slowed from 8.1% in the previous census, attributable to the slower economic activity in the early part of the census period resulting in a reduced level of immigration, albeit offset to a degree by strong natural increase. The economy subsequently recovered with consequent population growth predominantly attributed to natural increase, greater economic activity, increased job opportunities and continued immigration.

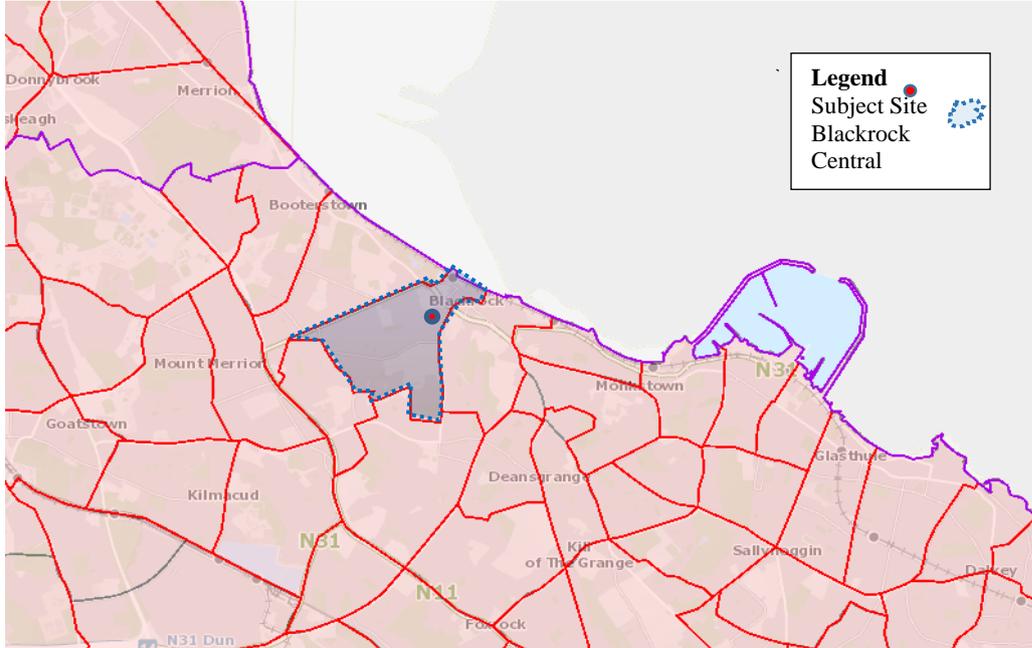
Table 3.1: Population change in the State, Dublin County, and Blackrock Central ED 2011-2016 (Source: CSO)

Area	Number of Persons		
	2011	2016	% change 11-16
Ireland - State	4,588,252	4,761,865	3.8
Dublin County	1,273,069	1,347,359	5.8
Dun Laoghaire Rathdown County	206,261	218,018	5.7

Electoral Division of Blackrock Central	3,841	3,733	-2.8
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However, population growth of Blackrock Central electoral division decreased, breaking with the wider trend for Dublin County or Dun Laoghaire Rathdown County over the 2011-2016 intercensal period. This can be attributed to an ageing population in the area and a lack of new development due to the largely developed nature of the area. The provision of additional residential accommodation will help support existing services in the area and provide for a small level of population growth in the area.

Figure 3.1: Image of the Blackrock Central electoral division indicating site location



3.3.4 Land Use & Settlement Patterns

The predominant land use immediately surrounding the subject site is retail and commercial office use to the east and residential use to the north west, west and south west. The wider Blackrock area is characterised by a mix of low and medium density residential developments. The subject site has recently seen the substantial completion of construction associated with the rejuvenation of the Frascati Shopping Centre. The construction of the structural elements of the Phase 1 residential permission commenced in March 2020, under Reg. Ref.: Reg. Ref.: D17A/0950 & ABP Ref.: 300745-18. The proposed alterations relate to non-structural elements, primarily relating to the internal layout of units and external finishes / winter gardens. The proposed alterations are not affected by the commencement of construction of the structural elements.

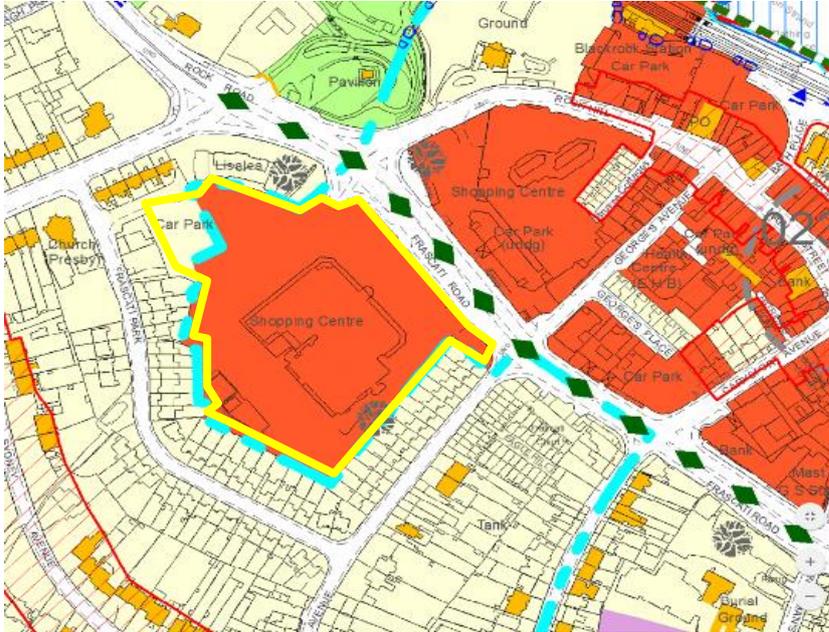
The subject site is located within the administrative area of Dun Laoghaire Rathdown County Council and is therefore subject to the objectives and policies contained within the Dun Laoghaire Rathdown County Development Plan 2016-2022. The site is also located within the Blackrock LAP 2015-2021 area.

The subject site is zoned 'District Centre' (DC) which has the objective "to protect, provide for and-or improve mixed-se district centre facilities", as indicated in Figure 3.2. A small portion of the Frascati Centre site, north west corner, is zoned objective 'A' which seeks 'to protect and / or improve residential amenity'. Residential development is 'permitted in principle' under both zonings subject to compliance with the relevant policies, local objectives, standards and requirements of the CDP. In addition, the Blackrock LAP supports a mix of uses in Frascati Shopping Centre including residential use.

The site is situated within Blackrock District Centre and located in close proximity to high quality public transport. The surrounding residential uses at the Lisalea Apartments, Georges Avenue, Frascati Park and Mount Merrion Avenue, which abut the boundary of the application site, are the only sensitive land uses in terms of future development proposals in the vicinity of the site.

The adjoining residential development on Georges Avenue and Frascati Park consist of two storey semi-detached and terraced properties. Mount Merrion Avenue consists of 2 storeys over lower ground floor Georgian properties and also contains the 4 storey Lisalea apartment scheme which abuts the northern boundary of the application site. The wider area consists of mainly of established residential neighbourhoods of a medium residential density with occasional more recent higher density schemes.

Figure 3.2: Extract from Map 2 Land Use Zoning, Dun Laoghaire Rathdown County Development Plan 2016-2022 (yellow line indicative only)



3.3.5 Health & Safety

The surrounding context consists of a mix of residential, employment, recreational and open space public amenity lands. It does not include any man-made industrial processes (including SEVESO II Directive sites (96/82/EC & 2003/105/EC) which might result in a risk to human health and safety. It is not within the catchment area of a SEVESO Site.

3.3.6 Risk of Major Accidents and Disasters

The EIA Directive states that an EIAR must include the expected effects arising from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project.

In this respect, taking cognisance of the other chapters contained within this EIAR document, it is not considered that the proposed development site presents risks of major accidents or disasters, either caused by the scheme itself or from external man made or natural disasters.

3.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

Consideration of the characteristics of the proposed development allows for a projection of the level of impact on any particular aspect of the environment that could arise. In this chapter the potential impact on population and human health is assessed.

A full description of the proposed development is provided in Section 2.

The proposal relates to alterations to the Phase 1 permission for 45 no. apartments (Reg. Ref.: D17A/0950 & ABP Ref.: 300745-18), from second to fourth floor level of the rejuvenated Frascati Centre. The proposed development also includes the provision of 57 no. additional apartments, as an extension of the Phase 1 permission, located above the existing / permitted podium car park to the north west of the centre, as a Phase 2 residential development. The subject application therefore relates to a total of 102 no. residential units.

The proposed alterations to the 45 no. apartments (Block A and B) and associated development, permitted under the Phase 1 residential development, includes the following:

- Internal rationalisation of the permitted units, including changes in overall unit size and internal layouts, and associated external alterations including the provision of winter gardens.
- Provision of an external walkway connection between the Phase 1 and Phase 2 residential blocks at second floor level.
- The refuse, car and cycle parking facilities permitted at lower ground floor level will be altered to cater for the additional residential units, including the introduction of a barrier control system.
- The main entrance to the Phase 1 residential scheme from Frascati Road will serve both the permitted and proposed units.
- A concierge facility room to serve the overall residential development is proposed at second floor level near the main core of Phase 1, with an associated minor reduction in the area of the permitted communal terrace at second floor level.
- The communal open space for Phase 1 and 2 will be accessible to all residents.
- Alterations to the cycle parking provision at lower ground floor / basement level and at the first-floor level podium car park.

The Phase 2 proposal consists of 20 no. studios, 22 no. 1 beds and 15 no. 2 beds (57 no. apartments) in three no. blocks (Block D, E & F), arranged around a central communal courtyard space, above the existing and permitted podium car park to the north west of the centre. Block D is a five storey block, Block E is a part two to part four storey block and Block F is a part two to part three storey block, all above three levels of podium / basement car park. Balconies / winter gardens are provided to all apartments (on the north western, north eastern, south western elevations and into the internal courtyard) and access to the blocks is via stair / lift cores and an external walkway fronting the communal courtyard. A roof terrace is also proposed at fifth floor level of Block E.

The proposal includes the allocation of 57 no. car parking spaces at lower ground floor level and 214 no. bicycle parking spaces at lower ground and surface level for the 102 no. residential units. The proposal includes alterations to existing surface car parking to provide additional landscaping and bicycle spaces, a bin storage area and stair / lift cores are proposed within the existing / permitted basement / podium car parks below the Phase 2 residential units, and the proposal includes all associated ancillary site development works. The proposal also includes alterations to the location of 30 no. permitted cycle parking spaces associated with the rejuvenation of the Frascati Centre, Reg. Ref.: D14A/0134, as amended.

The basement area, which will accommodate the car parking area for the residential units, has been constructed and the replacement car parking for the retail floorspace is permitted under the Phase 1 permission for an additional podium level.

The development also provided for works to the Frascati Road (N31) including access, pedestrian and cycle improvements adjacent to the application site. This will include an upgraded pedestrian crossing on the Frascati Road (N31) which will provide more convenient access between the Frascati Shopping Centre and the remainder of the core retail area of Blackrock. These works have been implemented.

3.5 'DO NOTHING' IMPACT

In order to provide a qualitative and equitable assessment of the proposed development, this section considers the proposed development in the context of the likely impacts upon the receiving environment should the proposed development not take place.

A '*do nothing*' impact would result in the subject lands continuing to be used as a shopping centre, with 45 no. residential units provided as per the permitted residential development. This could be considered an underutilisation of the site from a sustainable planning and development perspective, which supports increased residential densities at suitable locations within built up areas, particularly considering the proximity of the subject lands to high quality public transport. The status of the environmental receptors described throughout this EIAR document would be likely to remain unchanged. The status of the environmental receptors described throughout this EIAR document would be likely to remain unchanged.

The potential for any likely and significant adverse environmental impacts arising from both the construction and operational phases of the proposed development would not arise.

However, similarly the potential for any likely and significant positive environmental impacts arising from both the construction and operational phases of the proposed development would also not arise.

A 'do nothing' scenario would involve the subject site, which is zoned for District Centre uses not providing a diverse mix of uses and remaining underutilised. The local economy would not experience the direct and indirect positive effects of the construction phase of development, including employment creation. The local construction sector and associated industries and services would be less viable than they might otherwise be. Failure to deliver the proposed residential units would result in existing housing need and demand remaining unmet.

3.6 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

3.6.1 Introduction

This section provides a description of the specific, direct and indirect, impacts that the proposed development may have during both the demolition, construction and operational phases of the proposed development. As stated, guidance documents from the EPA, the European Commission, and the Department of Housing, Planning and Local Government outline that the assessment of impacts on population and human health should focus on the health issues and environmental hazards arising from the proposed development. A wider consideration of human health effects which do not relate to the factors identified in the EIA Directive is not required. Additionally, this section addresses the population and socioeconomic impacts of the proposed development.

For a more detailed assessment of potential impacts associated with other environmental factors, please refer to specific chapters of the EIAR which assess the environmental topics outlined in the EIA Directive. The Construction Management Plan, the Construction and Demolition Waste Management Plan, and the Operational Waste Management Plan, which are included as standalone reports with this application, also provide a more detailed assessment of the demolition, construction, waste and indicative phasing proposals for this development.

3.6.2 Water

Construction Phase

Provision of water infrastructure for the proposed development would involve construction activities within the subject lands mainly involving trench excavations conducted in parallel with the other services. The potential impact on the local public water supply network would be short term and imperceptible. Therefore, the impact on human health and population in this regard is considered to be insignificant.

During the construction phase there is potential that surface water runoff may also contain increased silt levels or pollutants from the construction processes. The discharge of these contaminants, such as concrete and cement, which are alkaline and corrosive. A number of mitigation measures are outlined in Chapter 8 – Water.

Operational Phase

The impact of the operational phase of the proposed development on the public water supply will increase the demand on the existing supply. The estimated peak demand from the development combined with the permitted will be 0.526 l/s, with an estimated total daily flow of c. 45,442 l/day.

As such additional water quantities would need to be treated at the reservoir and supplied through the existing network to the site. This will require extra cost as well as increasing abstraction volumes from the existing source. The impact on human health and population in this regard is considered to be insignificant.

SUDs will be implemented in accordance with the recommendations of the GSDS and Dun Laoghaire Rathdown County Council requirements. In addition, the 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' will be adhered to.

Therefore, the potential impact on population and human health in this regard is considered to be insignificant.

3.6.3 Noise

Construction Phase

During the construction phase there will be works, involving construction machinery, construction activities on site, and construction traffic, which will all generate noise. The highest noise levels will be generated during the general construction activities. The construction noise levels will occur over an approximate 18 to 24 month period (depending on overlap with Phase 1 and 2) and will only occur during daytime hours which will serve to minimise the noise impacts at local existing receptors over the course of the construction phase.

The closest noise sensitive buildings to the proposed residential extension are typically c. 28m to No. 37 Frascati Park to the south and c.16-50m between corner of Phase 2 to Lisalea apartments (please note Lisalea apartment block is 1.8m from the site boundary). Given the extent of existing structures already completed as part of the rejuvenation development, however, the main noise sources associated with this element of the extension (e.g. tower cranes, generators, lifting equipment etc.) will be largely screened from the nearest noise sensitive properties by these structures within the confines of the site.

Indicative construction noise levels based on the above assumptions are calculated at 65 and 70dB L_{Aeq} at the closest noise sensitive locations.

It is predicted that the construction phases shall result in a short term increase in noise levels in the area as well as introducing tonal and impulsive noise as a result of construction activities such as vehicle movements and general manual construction activities.

The proposed construction phase noise mitigation measures as detailed in the Noise and Vibration chapter of this EIAR shall ensure that all construction activities are controlled and managed and audited by an independent acoustic consultant to confirm that the mitigation measures are implemented throughout the construction phase.

Operational Phase

The main potential for altering the noise environment once the development is operational, and thus impacting neighbouring residential receptors, is road traffic noise associated with the development.

The noise impact of the operation of the new first floor podium car park is predicted to be minor and long term.

The cumulative traffic associated with the proposed apartments combined with the permitted developments on the site is determined to increase traffic along Frascati Road by 0.3% to 0.7% between the junction west of Mount Merrion Road and east of Georges Avenue. The traffic generated by the proposed development is concluded to have little or no material impact on the existing background traffic on Frascati Road.

From a noise point of view, an increase in traffic of this magnitude will be of negligible impact. The specific increase in traffic noise levels is less than 0.1dB and a change in traffic noise levels of this magnitude is inaudible and the overall impact is imperceptible. The overall impact is determined to be neutral and long term.

Within the proposed development, sounds generated by everyday domestic activities including waste facilities, pedestrians, children, and use of open spaces, are part of everyday living, and are not considered "noise" in the sense of a potential nuisance. This activity noise would not have any potential

for impact beyond the boundaries of the site. In particular, the design of the proposed development has ensured that waste management facilities will not result in impacts on adjacent sensitive receptors.

3.6.4 Air Quality & Climate

Construction Phase

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust. While construction dust tends to be deposited within 350m of a construction site, the majority of the deposition occurs within the first 50m. The extent of any dust generation depends on the nature of the dust (soils, peat, sands, gravels, silts etc.) and the nature of the construction activity. In addition, the potential for dust dispersion and deposition depends on local meteorological factors such as rainfall, wind speed and wind direction, please refer to Chapter 9- Air Quality and Climate and Chapter 11- Microclimate for a more detailed assessment.

Overall, in order to ensure that no dust nuisance occurs during the construction and trackout activities, a range of dust mitigation measures associated with a high risk of dust impacts must be implemented. When the dust mitigation measures detailed in the Air Quality and Climate chapter of the EIAR are implemented, fugitive emissions of dust from the site will be insignificant and pose no nuisance at nearby receptors.

The Air Quality and Climate chapter of this EIAR determines that the risk of human health impacts as a result of all relevant construction activities is considered low.

CO₂ and N₂O emissions during construction will have a negligible impact on climate or human health therefore no mitigation measures are required.

Operational Phase

The primary impacts to air quality or climate would involve the change in traffic flows or congestion in the local areas which are associated with the development. However, none of the road links impacted by the development satisfy the criteria to complete an air modelling assessment, it can therefore be determined that the impact to air quality and climate from traffic emissions during the operational stage are *imperceptible* and *not significant* for the long and short term.

In addition, there are no predicted impacts to human health during the operational stage of the development.

3.6.5 Landscape and Visual Impact

Construction Phase

As described in greater detail in Chapter 6- Landscape and Visual Impact Assessment, the construction phase will have short term landscape and visual impacts. The impacts are not considered significant on population and human health, particularly given the ongoing redevelopment of the subject site.

Potential construction impacts will be similar in nature to those currently on site, and will arise from:

- Establishment of scaffolding and site enclosures at ground level and above the first floor retail level;
- General construction, emergence of new built elements, car parking and site infrastructure.
- Craning activities, site lighting, etc.

Potential construction stage impacts, though visually significant, will be temporary to short-term and commonplace within the urban environment.

Operational Phase

Given the established shopping centre, the recently complete *Rejuvenation Scheme*, and the granted Phase 1 development for which the structural elements are currently being constructed, it is considered

that the potential for landscape / townscape and visual impact during operation stage is reduced. The proposed external elevational changes to Phase 1 – the provision of winter gardens in lieu of the permitted recessed balconies and minor external alterations arising from internal design changes– will have a nominal and neutral effect on the streetscape character of the Frascati Road.

Nevertheless, the proposed development includes an additional phase of residential development over the podium carpark at the northern part of the site, and a commensurate increase in the intensity of development on the site.

The proposed development has potential to result in substantial change both in the appearance of the Shopping Centre from Frascati Road, and in the townscape experience along the N31, and also in the intensity of development towards the northern part of the site.

The range and extent of influence of such impacts is substantially restricted to the N31 corridor and to immediately adjoining residential properties to the southeast and northwest and it is considered that these visual impacts will not precipitate any significant impact on population or human health.

3.6.6 Economic Activity

Construction Phase

The construction phase of the proposed development is likely to result in a positive net improvement in economic activity in the area of the proposed development site particularly in the construction sector and in associated and secondary building services industries. Thus, the construction phase is likely to enhance economic activity in the construction sector.

The construction phase will also have secondary and indirect ‘spin-off’ impacts on ancillary support services in the area of the site, such as retail services, together with wider benefits in the aggregate extraction (quarry) sector, building supply services, professional and technical professions etc. These beneficial impacts on economic activity will be largely temporary but will contribute to the overall future viability of the construction sector and related services and professions over the c. 16-month construction period.

The commercial impact of the construction of the proposed development is likely to result in some adverse impact to existing retailers and businesses operating from the subject site and immediate surrounds due to the obstruction and deferral of business from the Frascati Centre and associated ‘spin-off’ to other retail outlets in the wider area. These impacts will be short-term.

Operational Phase

The operational phase of the proposed development will result in a rejuvenated Frascati Centre with an additional element of residential development as proposed. This will provide accommodation for residents in the form of 102 no. high quality residential apartments located on a site which is appropriately situated and serviced for such development in planning terms. This increase in occupancy in the area will enhance local spending power and will assist with the delivery of a critical mass of population which will support a wide range of additional local businesses, services, transport infrastructure and employment opportunities.

3.6.7 Social Patterns

Construction Phase

The construction phase of the proposed development is unlikely to have any significant impact on social patterns within the surrounding area. Some additional temporary additional local populations may arise out of construction activity. However, these impacts are imperceptible, temporary in nature and therefore not considered significant.

It is acknowledged that the construction phase of the project may have some short-term negative impacts on local residents. Such impacts are likely to be associated with construction traffic and possible nuisances associated with construction access requirements. These impacts are dealt with separately

and assessed elsewhere in the EIAR, including Chapter 2 - Project Description and Alternatives Examined, Chapter 9 - Air Quality and Climate and Chapter 10 - Noise and Vibration.

Such impacts will be short term and in the longer term, the completed scheme will have beneficial impacts for local businesses, residents and the wider community. Any disturbance is predicted to be commensurate with the normal disturbance associated with the construction industry where a site is efficiently, sensitively and properly managed having regard to neighbouring activities. The demolition and construction methods employed and the hours of work proposed will be designed to minimise potential impacts to nearby residents. A Construction Management Plan and a Construction and Demolition Waste Management Plan have been prepared and are submitted with this planning application.

Operational Phase

The addition of new residents to the area will improve the vibrancy and vitality of the area and will help to support existing community and social infrastructure. The subject lands are located adjacent to public transport including frequent bus and DART services. There is also a considerable range of existing and planned community and social infrastructure in this area of the County, which the proposed development will be able to avail of. The proposed development will provide much needed homes in this area of the County, which will help cater for the considerable pent up and consistent demand in the GDA, which is not being met at present.

3.6.8 Land-Use & Settlement Patterns

Construction Phase

The construction phase of the proposed development will involve the addition of a residential element comprising 102 no. units above the rejuvenated existing Frascati Centre. The development works will be largely confined to the proposed development site and have the potential to impact adversely and result in the temporary degradation of the local visual environment on a short-term basis. The visual impacts are assessed in greater detail in Chapter 6 of this EIAR.

Operational Phase

The operational phase of the proposed development will provide for an additional residential element in addition to the established retail use of the lands.

3.6.9 Health & Safety

Construction Phase

The construction phase of the proposed development may give rise to short-term impacts associated with construction traffic, migration of surface contaminants, dust, noise and littering. Secondary impacts may include resulting increased traffic arising from hauling building materials to and from the proposed development site which are likely to affect population and human health distant from the proposed development site, including adjacent to aggregate sources and landfill sites.

Construction impacts are likely to be short term and are dealt with separately in the relevant chapters of this EIAR document and will be subject to control through a Construction Management Plan, and a Construction and Demolition Waste Management Plan. The construction methods employed and the hours of work proposed will be designed to minimise potential impacts. The development will comply with all Health & Safety Regulations during the construction of the project. Where possible, potential risks will be omitted from the design so that the impact on the demolition and construction phase will be reduced.

Operational Phase

The operational stage of the development is unlikely to precipitate any significant impacts in terms of health and safety. The design of the proposed development has been formulated to provide for a safe environment for future residents and visitors alike. The paths and public areas have all been designed in accordance with best practice and the applicable guidelines. Likewise, the proposed residential units accord with the relevant guidelines and will meet all relevant safety and building standards and

regulations, ensuring a development which promotes a high standard of health and safety for all occupants and visitors.

The proposed development will not result in any significant impacts on human health and safety once completed and operational. The proposed development therefore is unlikely to result in negative impacts in relation to population and human health in this regard.

3.6.10 Risk of Major Accidents or Disasters

Construction Phase

Having regard to the topography, nature and location of the subject site, it is not considered likely that there will be any impact related to a major accident or disaster during the construction phase of the proposed development, stemming internally from within the development, or externally.

The works proposed in proximity to roadways will be governed by best practice and appropriate safety procedures, ameliorating any risk of a major accident in those contexts.

Operational Stage

The proposed development will be located on land which is not at any significant accident or disaster. The traffic arrangements and parking have been designed so as to avoid any risk of a major accident associated with the surrounding road network.

Therefore, it is considered that there is no significant risk related to major accidents or disasters, external or internal, man-made or natural in respect of the proposed development.

For further details please refer to the Transportation Assessment Report and associated documentation prepared by NRB Consulting Engineers. Therefore, it is considered that there is no significant risk related to major accidents or disasters, external or internal, man-made or natural in respect of the proposed development.

3.7 POTENTIAL CUMULATIVE IMPACTS

The potential cumulative impacts of the proposed development on population and human health have been considered in conjunction with the ongoing changes in the surrounding area and in particular the recently completed rejuvenation project at the Frascati Centre.

The cumulative impact of the proposed development will be a further increase in the population of the wider area and a further increase in the overall size and scale of development at Frascati. The subject site, which heretofore had accommodated retail and associated uses within the existing shopping centre, will accommodate a total of 102 no. new residential units (i.e. alterations to 45 permitted units and provision of 57 no. new residential units). This will have a minor impact on the population in the area. This impact is likely to be long term and is considered to be positive, having regard to the zoning objective for the subject lands, and their strategic location in close proximity to high quality, high frequency public transport, and the high level of demand for new housing in the area.

The cumulative impact of the proposed development, along with other permitted and existing developments in the vicinity, will be a further increase in the population of the wider area. This will have a moderate impact on the population (human beings) in the area. This impact is likely to be long term and is considered to be positive, having regard to the zoning objective for the subject lands, and their strategic location in close proximity to public transport, and the high level of demand for new housing in the area.

With regard to human health, the cumulative impact of the proposed development in conjunction with other nearby developments and the ongoing development on the subject site will provide for the introduction of high-quality new housing stock in the area with a high level of accessibility and amenity.

The overall cumulative impact of the proposed development will therefore be long term and positive with regard to human health for future residents of scheme who will benefit from a high quality, visually

attractive living environment, with ample opportunity for active and passive recreation and strong links and pedestrian permeability, with a direct and convenient link to high frequency public transport modes. The impact on existing residents is considered to be neutral.

Having regard to the assessment of cumulative impacts, it is not considered that any additional mitigation measures are required further to those which are outlined above.

3.8 AVOIDANCE, REMEDIAL & MITIGATION MEASURES

Avoidance, remedial and mitigation measures describe any corrective or mitigative measures that are either practicable or reasonable, having regard to the potential likely and significant environmental impacts.

Construction Phase

A range of construction related remedial and mitigation measures are proposed throughout this EIAR document with reference to the various environmental topics examined and the inter-relationships between each topic. These remedial and mitigation measures are likely to result in any significant and likely adverse environmental impacts on population and human health during the construction phases being avoided. Readers are directed to Chapter 15 of this EIAR document which summarises all of the remedial and mitigation measures proposed as a result of this EIAR.

In particular, the mitigation measures relating to construction and demolition phase referenced in Chapter 2 are also relevant to Chapter 3 and therefore will not be repeated herein.

Operational Phase

The operation phase is considered to have likely positive impacts on human beings in relation to the provision of additional residential units in accordance with the principles of sustainable development and zoning objectives pertaining to the site.

3.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

This section allows for a qualitative description of the resultant specific direct, indirect, secondary, cumulative, short, medium and long-term permanent, temporary, positive and negative effects as well as impact interactions which the proposed development may have, assuming all mitigation measures are fully and successfully applied. It should be noted that in addition to remedial and mitigation measures, impact avoidance measures have also been built into the EIA and project design processes through the assessment of alternatives described in Chapter 2 of this EIAR document.

Construction Phase

The construction phase of the proposed development will result in the addition of a residential element, comprising 102 no. residential units to the permitted rejuvenation scheme of Frascati Shopping Centre. This will provide for a more sustainable use of the subject site, with a greater mix of uses on a highly accessible site. Notwithstanding the implementation of remedial and mitigation measures there will be some minor temporary residual impacts on Population and Human Health most likely with respect to nuisance caused by construction activities. It is anticipated that subject to the careful implementation of the remedial and mitigation measures proposed throughout this EIAR document any adverse likely and significant environmental impacts will be avoided. Positive impacts are likely to arise out of an increase in employment and economic activity. The overall predicted likely and significant impact of the construction phase will be short-term, temporary and likely to be neutral.

Operational Phase

The proposed development will result in a generally positive alteration to the existing site in terms of urban design, architecture, economic activity and provision of residential accommodation in accordance with adopted land use planning policy.

The implementation of the range of remedial and mitigation measures included throughout this EIAR document are likely to have the impact of limiting any adverse significant and likely environmental impacts of the operational phase of the proposed development on Population and Human Health.

The proposed development will generate additional economic activity in the area and provide for a high standard of residential accommodation. This will be a significant positive impact of the proposed development.

3.10 MONITORING

This section addresses the effects that require monitoring, along with the methods and the agencies that are responsible for such monitoring.

In relation to the impact of the development on population and human health it is considered that the monitoring measures outlined in regard to the other environmental topics such as water, air quality and climate and noise and vibration sufficiently address monitoring requirements

3.11 REINSTATEMENT

While not applicable to every aspect of the environment considered within the EIAR, certain measures may be proposed to ensure that in the event of the proposal being discontinued, there will be minimal impact to the environment.

There are no reinstatement works proposed with respect to Population and Human Health.

3.12 RESIDUAL IMPACTS

It is anticipated that the proposed development will realise significant positive long term overall economic and social benefits for the local community and the wider area. The proposed development will increase the population in the study area. This is considered a positive impact having regard to the District Centre zoning and proximity to public transport.

Strict adherence to the mitigation measures recommended in this EIAR will ensure that there will be no negative residual impacts or effects on Population and Human Health from the construction and operation of the proposed scheme. Indeed, the delivery of housing, office, and additional open space will realise a significant positive long-term impact for the local area.

3.13 INTERACTIONS

As noted above, there are numerous inter-related environmental topics described in detail throughout this EIAR document which are of relevance to human health. This chapter of the EIAR has been instructed by updated guidance documents reflecting the changes within the 2014 EIA Directive. These documents are the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) and the Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in August 2017. Therefore, in line with the guidance documents referred to, this chapter of the EIAR focuses primarily on the potential likely and significant impact on Population and Human Health in relation to health effects/issues and environmental hazards from the other environmental factors and interactions that potentially may occur.

Where there are identified associated and inter-related potential likely and significant impacts which are more comprehensively addressed elsewhere in this EIAR document, these are referred to. However, the reader is directed to the relevant environmental topic chapter of this EIAR document for a more detailed assessment

3.14 DIFFICULTIES ENCOUNTERED IN COMPILING

No significant difficulties were experienced in compiling this Chapter of this EIAR document.

3.15 CONCLUSION

This chapter of the EIAR has provided an assessment of the likely impact of the proposed development on population and human health. As set out above, the proposed development is not likely to result in any significant adverse effects on population and human health, and will result in several positive impacts, some of which are significant. These include *inter alia* a significant positive economic impact during both the construction and operational phases of the proposed development, along with positive impacts on the land use and settlement patterns, employment, landscape and visual impact, and social patterns.

3.16 REFERENCES

- National Planning Framework 2018
- Regional Spatial and Economic Strategy for the EMRA, 2019
- Dun Laoghaire Rathdown County Development Plan 2016-2022
- Blackrock LAP 2015-2021
- 2020 Labour Force Survey Q2 – www.cso.ie
- 2020 Labour Force Survey Q1 – www.cso.ie
- 2019 Labour Force Survey Q4 – www.cso.ie
- 2019 Labour Force Survey Q2 – www.cso.ie
- ESRI Quarterly Economic Commentary, Summer 2020
- ESRI Quarterly Economic Commentary, Spring 2020
- Central Statistics Office www.cso.ie