



Dublin Port Masterplan 2040

Reviewed 2018

Draft

April 2018 | www.dublinport.ie/masterplan

Contents

1. FOREWORD	1
2. EXECUTIVE SUMMARY.....	4
3. THE RATIONALE FOR THE MASTERPLAN.....	8
4. FORECASTS.....	25
5. INFRASTRUCTURE PROPOSALS	34
6. SAFEGUARDING, PROPERTY AND BLIGHT	44
7. TRANSPORT AND INLAND CONNECTIVITY	48
8. SOCIAL, COMMUNITY AND ECONOMIC IMPACTS.....	53
9. SAFETY AND SECURITY.....	67
10. SUMMARY OF ENVIRONMENTAL STUDIES.....	70
11. IMPLEMENTATION OF THE MASTERPLAN.....	80
12. MONITORING AND REVIEW OF THE MASTERPLAN	83
Appendix 1 - Environmental Monitoring of the Masterplan 2040...	86

1. FOREWORD

Dublin Port Company is a State-owned commercial company responsible for operating and developing Dublin Port.

Dublin Port is the largest freight and passenger port in Ireland with all cargo handling activities being carried out by private sector companies operating in intensely competitive markets within the Port.

Dublin Port is one of five major ports classified as Tier 1 / Tier 2 ports in National Port Policy and categorised as core / comprehensive ports in the EU's TEN-T network.

Dublin Port's large share of national port volumes, particularly in the Ro-Ro and Lo-Lo modes, arises due to a combination of two factors, location and depth of water. Dublin Port is a key part of the national port system and Dublin Port Company seeks to ensure that it plays its role in providing national port capacity. For all of our major national ports it is essential that capacity constraints do not emerge which could lead to supply chain inefficiencies. This Masterplan seeks to ensure that no capacity constraints emerge in Dublin Port between now and 2040.

The Masterplan 2012-2040 was adopted by the Board of Dublin Port Company on 26th January 2012 and published in February 2012. In the six years since, it has guided the development of the Port particularly through two major initiatives:

- Firstly, the Alexandra Basin Redevelopment Project received planning permission in July 2015 and construction is now underway.
- Secondly, construction of the 44 hectare Dublin Inland Port, located 14 km from Dublin Port, has commenced and will allow port-related but non-core activities to be relocated away from Dublin Port. This, in turn, will free up much needed land close to the quays and berths in Dublin Port for the transit storage of cargo.

In the years from 2012 to 2018, three significant policy documents have been published:

- National Ports Policy, 2013
- Dublin Port Company's Franchise Policy, 2014
- Project Ireland 2040 National Planning Framework, 2018

In addition, there has been the unanticipated and strong economic recovery leading to a growth in Dublin Port's volumes of 30.1% in the five years to 2017.

Against this background, a review of the Masterplan 2012-2040 was completed and this review has led to a number of fundamental conclusions.

- Firstly, where the Masterplan had originally envisaged a return to an eastern expansion of Dublin Port into Dublin Bay, Dublin Port Company is no longer pursuing this as an option.
- Secondly, to meet anticipated capacity requirements Dublin Port needs to be developed on the basis of an average annual volume growth of 3.3% over the 30 years from 2010 to 2040

rather than the 2.5% originally assumed in 2012.

Taken together, these conclusions create a high degree of certainty on the ultimate scale and impact of Dublin Port on the city, the environment and on local and national transport networks.

Between now and 2040, major development projects are envisaged on both the north side of the Port and on the Poolbeg Peninsula. All of these major projects will be subject to detailed scrutiny in terms of their environmental impact and, particularly, their potential impact on Natura 2000 sites in Dublin Bay.

Given the high growth rates projected and the need to cater for this growth without further expansion into Dublin Bay, Dublin Port Company will only bring forward development projects which are consistent with the principles of proper planning and sustainable development and which can be objectively demonstrated not to adversely affect the environment in all its facets.

Dublin Port Company is also challenged to complete major construction projects without disruption to the Port's large and increasing throughput of both cargo and passengers.

This Masterplan 2040 seeks to provide the necessary framework to allow these essential projects to be brought forward for planning and other consents and to be constructed in time to meet demand. The Masterplan is also intended to indicate to all of the Port's stakeholders how the Port will be developed to meet their needs in the years ahead.

In addition to reviewing the Masterplan, new and updated environmental analyses have been prepared to inform the range of infrastructure options envisaged to meet volume growth projections to 2040. These include:

- A Strategic Environmental Assessment
- A Natura Impact Statement
- A Strategic Flood Risk Assessment
- A Strategic Transportation Study

Importantly, the review of the Masterplan has also been informed by extensive public and stakeholder consultations.

The past and projected growth to 2040 is in large part due to the growth in the country's population. In 1950, the population was 3.0m and by 2040 is projected to grow to 5.6m. Over this period, volumes through Dublin Port are projected to increase 27 fold from 2.9m gross tonnes in 1950 to 77.2m in 2040.

Port infrastructure is long lived. For instance, Dublin Port critically depends for its depth of water and sheltered berths on, firstly, the 18th century Great South Wall and, secondly, on the North Bull Wall, completed in 1824.

Planning horizons for port infrastructure are very long and development decisions today must be carefully considered. This Masterplan, therefore, envisages the continued development of Dublin

Port by way of a series of discrete projects which can, if needs be, be deferred should future growth be lower than our plans assume.

The great unknown in the long-term planning of Dublin Port is the level of future growth. If the projected 27 fold increase in port volumes over in the 90 years to 2040 were to repeat itself thereafter, then port volumes would rise to an implausible two billion gross tonnes. Our development plans are framed against the inevitability that there will, at some point, be a decoupling of port volume growth from economic growth. Whether this happens before 2040 or after, we do not know. Hence the focus in this Masterplan on discrete bite sized projects which can continue to allow Dublin Port to accommodate growth to at least 2040.

In addition to the focus on port capacity, the Masterplan will also guide the development of Dublin Port to achieve the other essential objective of re-integrating Dublin Port with Dublin City and with Dublin Bay. This will involve a range of projects and initiatives based on the Port's heritage and on the natural environment.

Dublin Port is an essential part of Dublin and contributes to the life of the city in many ways. This Masterplan 2040 sets out how Dublin Port Company will maximise the value of Dublin Port to the life of the city and its citizens.

2. EXECUTIVE SUMMARY

- 1) The quality of air and sea access infrastructure is a critical element in serving the internationally traded side of the economy and must be of the highest international standards in order to facilitate merchandise trade in a competitive manner.
- 2) Dublin Port is a key facilitator of merchandise trade in and out of Ireland and has a critical impact on the national and regional economies. The Port is also a key component of the national tourism sector and represents a gateway for visitors to Ireland.
- 3) The contribution that Dublin Port makes to the national and regional economy and to the people of Ireland as a strategic piece of infrastructure gives Port lands their real intrinsic value.
- 4) Dublin Port is a significant focal point for employment in Dublin both directly through businesses operating in the Port and regionally through enterprises supported by the trading activity carried on at the Port. An efficient and dynamic Dublin Port will contribute to the generation of more employment in the economy.
- 5) The Masterplan 2012 to 2040 was published in February 2012. The First Review of the Masterplan commenced in 2017 and was completed in 2018. The main conclusions from this review were:
 - Dublin Port should be developed to provide capacity based on an increased average annual growth rate of 3.3% from 2010 to 2040 rather than the originally assumed 2.5%.
 - The development options to provide capacity for this level of growth should exclude the option of any further infill into Dublin Bay.
 - Where the Masterplan originally envisaged deepening Dublin Port in two stages from -7.8m CD, firstly, to -10.0m CD and, ultimately, to -12.0m CD, the already commenced project to achieve a depth of -10.0m CD should be the final deepening of Dublin Port.
 - The development options will provide capacity to cater for a growth to 77m gross tonnes by 2040.
- 6) The Masterplan is a **non-statutory plan** which has nonetheless been framed within the context of EU, national, regional and local development plan policies.
- 7) A Strategic Environmental Assessment (SEA) Environmental Report and a Natura Impact Statement (NIS) have also been prepared to accompany and inform the Masterplan. These documents are available on the Dublin Port Company website (www.dublinport.ie/masterplan).
- 8) Section 5 of the Masterplan sets out the infrastructure development proposals which have been advanced following an assessment of the options available for the provision of port capacity in Dublin Port.
- 9) The development options presented in Section 5 are **not** a prescriptive menu of developments that will be carried out in Dublin Port. Rather they are a set of possible **options** for development depending on demand and capacity, and subject to securing the planning and other necessary consents.
- 10) The development options in the Masterplan are advanced with an eye to the Company's ability to finance them. Dublin Port Company envisages the Port developing through a series

of “bite-sized” project investments which keep the company within the bounds of reasonable and acceptable levels of financial risk associated with taking on project debt.

- 11) Dublin Port Company believes that there is likely to be a positive trajectory of growth over the period to 2040. In advancing the Masterplan for Dublin Port to 2040, it is intended to show how the Port could handle 77 million tonnes by 2040, which is based on an average annual growth rate of 3.3% per annum over the 30 years from 2010 to 2040.
- 12) This potential throughput growth rate of 3.3% is consistent with experience in Dublin Port over the 60 years from 1950 to 2040.
- 13) If the projected levels of growth materialise, then the volume of cargo through Dublin Port will have increased 27 fold over the 90 years from 1950 to 2040. It is implausible that there would be another 27 fold increase over the 90 years from 2040 to 2130. Therefore, Dublin Port Company believes that growth will slow down at some point in the future. However, consistent with Project Ireland 2040 National Planning Framework, Dublin Port Company does not believe that this will happen before 2040. As a consequence, Dublin Port will have to be developed as envisaged in this Masterplan to provide the port capacity needed to 2040.
- 14) In the period to 2040, the Eastern and Midland Region will retain its primary importance in the national economy with its population growing to 2.85m equivalent to 50% of the national total.
- 15) On the basis of current trends Ro-Ro freight will remain the largest component of the Port’s traffic to 2040. Providing and efficiently utilising lands for Ro-Ro freight is the single biggest challenge addressed by this Masterplan.
- 16) Dublin Port Company is satisfied that through a combination of utilising existing facilities and the possibility of building new facilities, there will be adequate capacity to allow the Port handle future volumes of Lo-Lo container trade over the period to 2040.
- 17) The Port recognises that new cruise facilities will be required to further develop this business and cater for future growth prospects. The Company believes that the consented option of redeveloping North Wall Quay Extension best meets the objective of growing Dublin’s cruise tourism business to its maximum potential.
- 18) The main attraction of the cruise industry is the generation of significant revenues for the Dublin region – the actual contribution to Dublin Port Company’s revenues is not significant. Accordingly the Port could part fund the development but additional funding would be needed from other sources given the scale of capital funding required and the requirement for Dublin Port Company to demonstrate a return on capital invested. Dublin Port Company will engage with Dublin City Council, Dublin Chamber of Commerce, Fáilte Ireland and the Department of Transport, Tourism and Sport on the financing of such a project.
- 19) The consumption of petroleum products will diminish as national and EU energy and climate change policies take effect. Dublin Port Company will seek to redevelop existing petroleum facilities in Dublin Port for alternative port uses as this occurs.
- 20) To accommodate the existing and anticipated level of Bulk solid trade and to facilitate other types of freight activity over the period of the Masterplan, some improvements and consolidation of existing areas for handling these materials will be required.
- 21) Submissions and observations received through the Masterplan Review consultation process have been taken into account in the design of the development options and initiatives contained in the Masterplan. The design of the development options has also been

informed by the policy objective of Dublin Port Company to secure societal integration of the Port with the City and its people.

- 22) Integrating Dublin Port with Dublin City and its people is a core aim of the Masterplan for Dublin Port. This policy objective will underpin both how Dublin Port Company operates its current business and any development proposals envisaged under the Masterplan. It will be achieved through initiatives and programmes to be undertaken over the course of the period of the Masterplan.
- 23) In the context of a Masterplan which considers the development of the Port over a 30 year horizon it is also important that the Company takes a longer term view of the use and strategic benefit of specific lands and does not relinquish land required for port purposes in the future.
- 24) Dublin Port is well connected to the national road network and in particular the Dublin Port Tunnel, which was opened in 2006, has provided fast and direct access to the strategically important M50 and M1 routes within minutes of leaving the Port.
- 25) Dublin Port is at the heart of the national rail network with direct connections to all major centres of population. Dublin Port Company believes that there is continuing significant potential for rail freight to grow over the period of the Masterplan.
- 26) There are some specific supply chain and transport initiatives that Dublin Port Company will pursue during the period covered by the Masterplan and which will aim to facilitate the achievement of the sustainable transport objectives set out in both EU and national Policies.
- 27) It is expected that while modern technological innovations and developments in freight logistics will increase efficiencies, there will be a significant net employment gain from the development of new projects envisaged in this Masterplan.
- 28) In advancing the development options in the Masterplan, Dublin Port Company will ensure that the health, safety and security procedures at Dublin Port accord with best international practice and facilitate the operation of a modern, efficient and safe facility for passengers, freight and people working in the Port.
- 29) The original development options identified in the Masterplan published in February 2012 have been reviewed and adapted to produce a development path for Dublin Port to 2040 with no further infill into Dublin Bay.
- 30) The assessment of the likely environmental impacts arising from this development path was undertaken including the potential impact on Natura 2000 sites. The SEA Environmental Report identifies that the potential impacts of the revised development options are an improvement on the baseline established when the Masterplan was originally published in February 2012.
- 31) Dublin Port Company will continue to work closely with Dublin City Council, the NPWS, the Environmental Protection Agency and other stakeholders in the implementation of the proposals outlined in the Masterplan. In particular, Dublin Port Company will address specific requirements arising under the Birds and Habitats directives in the context of any developments which have a potential impact on Natura 2000 sites. This would include establishing the justification for such developments and identifying any mitigation or compensatory measures that may be required.
- 32) In particular, Dublin Port Company will maintain a formal structure for engagement with both the City Council and the NPWS on the implementation of the Masterplan, with the intention that this forum shall continue to meet at least annually or more frequently if

required. Dublin Port Company will also maintain formal structures for engagement on the implementation of the Masterplan with the local community.

- 33) Monitoring the performance of the Port and the achievement of the proposals outlined in the Masterplan will be a key element in ensuring its effective implementation.
- 34) Within the Masterplan, therefore, there will be periodic fundamental reviews no later than every ten years to ensure that the course being followed by the Port does not deviate from what is actually required.
- 35) In carrying out each such review, Dublin Port Company will consult with external stakeholders to ensure that the Plan continues to represent the best solution for future development of the Port, the City and the preservation and protection of Dublin Bay.
- 36) The First Review of the Masterplan was completed in 2018. It is envisaged that the Second Review of the Masterplan will take place no earlier than 2023 (to cover the period from 2018 to 2022) and no later than 2028 (to cover the period from 2018 to 2027). The timing of the review will be determined by reference to significant external events which might significantly alter the view of the future set out in this First Review of the Masterplan.

- Objectives of the Masterplan
- Consultation
- Status of the Masterplan
- Planning and policy context

3. THE RATIONALE FOR THE MASTERPLAN

Introduction

Dublin Port Company has prepared this Masterplan to guide the development of Dublin Port in the period to 2040.

The Masterplan presents a vision for future operations at the Port and critically examines how the existing land use at Dublin Port can be optimised for merchandise trade purposes. The Masterplan, which has been prepared following extensive engagement with stakeholders, also outlines how Dublin Port Company will work to better integrate the Port with the City and people of Dublin.

The Masterplan is subject to periodic review and the first such review was initiated in 2017 and concluded in 2018.

The Purpose of the Masterplan

The Masterplan has been prepared by Dublin Port Company in order to:

- Plan for future sustainable growth and changes in facilitating seaborne trade in goods and passenger movements to and from Ireland and the Dublin region in particular.
- Provide an overall context for future investment decisions.
- Reflect and provide for current national and regional policies, local guidelines and initiatives.
- Ensure there is harmony and synergy between the plans for the Port and those for the Dublin Docklands Area, Dublin City and neighbouring counties within the Dublin Region.
- Give some certainty to customers about how the Port will develop in the future to meet their requirements.

The Masterplan process has sought to address the following:

- Prepare a strategic Masterplan, building on the Masterplan Review 2017 Consultation Paper and in line with international guidance on the preparation of Port Masterplans.
- Conduct a wide-ranging consultation with stakeholders in the Port, statutory consultees as well as the general public on the Masterplan.
- Complete a Strategic Environmental Assessment of the Masterplan.
- Make provision for periodic reviews of the Masterplan based on changes in the demand

levels for port infrastructure with attendant consultation and environmental assessments.

The Masterplan addresses the key issues around the future development of the Port by reference to developments in merchandise trade and key sectors of the economy. It also examines the existing land utilisation at Dublin Port and suggests options for future development at the Port to facilitate the Port handling 77m gross tonnes by 2040.

The Masterplan has been informed by a series of expert reports prepared for the Issues Paper published by Dublin Port Company in March 2011 and takes account of feedback received during the consultation process. The Review of the Masterplan initiated in 2017 took account of significant developments since 2012, including the economic recovery, the commencement of projects originally identified in the Masterplan, new national and local policies and strategies prepared by statutory agencies, and changes in the international trading environment, including Brexit.

The revised development options outlined in the Masterplan are also informed by the Strategic Environmental Assessment (SEA) prepared as part of an iterative process by RPS and both documents should be read together.

The original rationale for the development options suggested under the Masterplan is also provided by a series of reports (prepared by the Port's executive) on different aspects of the operations of Dublin Port. These Reports looked at how the Port could effectively deliver on an objective of handling 60m tonnes by 2040. These Reports have been supplemented by the Masterplan Review 2017 Consultation Paper, which reviews the projections originally set out in the Issues Paper and the Masterplan, and updates them in the context of the economic, trading and regulatory conditions in 2017. These Reports are available as a separate online appendix to the Masterplan on the Dublin Port Company website (<http://www.dublinport.ie/masterplan>).

Alternatives

Dublin Port has grown over centuries by way of the continual canalisation of the River Liffey and infill into Dublin Bay. Against a background of continuing projected growth to 2040, there is a limit to which the approach of the past can continue to provide for the requirements of the future.

Dublin Port Company has considered where this limit lies by consideration of three main alternatives to the development of Dublin Port to provide the capacity to meet project demand by 2040:

- Do nothing
- Optimise existing port lands
- Optimise existing port lands and increase the area of port lands

Consideration of these alternatives has been informed by decisions taken since the Masterplan

was originally published in February 2012 (notably publication by Dublin Port Company of the Franchise Policy in 2014 and, subsequently in 2016, the purchase of a 44 hectare site to facilitate the development of Dublin Inland Port). The consideration of alternatives is also informed by the guidelines to achieve proper planning and sustainable development set out by Government in the Planning Policy Statement, 2015.

The outcome from this consideration of alternatives is presented in the design options outlined in this Masterplan and reflects the careful consideration of the different alternatives available to Dublin Port Company. The consideration of the alternatives was informed by the SEA process mindful of the necessity of selecting an alternative which facilitated the safe and efficient operation of the Port but minimised the impact of development of the Port on the environment. The detailed consideration of these alternatives can be seen in Table 3.1 in the SEA Environmental Report prepared for the Review of the Masterplan initiated in 2017. As a consequence of this assessment of alternatives, the proposals presented in the Masterplan now reduce the extent of possible expansion of the footprint of Dublin Port from that originally envisaged in the engineering options when the Masterplan was first published in February 2012.

Consultation

A major consultation exercise was carried out in 2011 to inform the Masterplan which involved:

- Significant consultation with the local community
- Detailed consultation with both statutory and non-statutory stakeholders
- Information briefings for customers, employees and interest groups concerned with the Port
- Public meetings in Clontarf, East Wall and Ringsend
- A seminar and a conference on the Masterplan
- Information leaflets circulated to local houses
- A significant public advertising and information campaign
- Direct engagement with public representatives
- A significant amount of material being made available on the Dublin Port Company website regarding Dublin Port, the Masterplan and related matters

Over 300 submissions were received in response to the Issues Paper published as part of the master planning process and following the publication of the draft Masterplan. There was an excellent level of engagement with statutory, community and commercial stakeholders. The reports on the consultation processes both on the Issues Paper and on the draft Masterplan are also available as online appendices to the Masterplan on the Dublin Port Company website (www.dublinport.ie/masterplan).

For the Masterplan Review initiated in 2017 a similar extensive consultation exercise was undertaken which attracted high levels of participation. Details of the consultation process undertaken in 2017 are outlined in the Masterplan Review 2017 Consultation Report. This is available on the Dublin Port Company website.

Status of the Masterplan

The Masterplan is a **non-statutory plan**. It has, nonetheless, been framed within the context of EU, national, regional and local development plan policies.

National Ports Policy advocates the production of port Masterplans.

The Masterplan has also been informed by relevant international guidance on Port master-planning.

Since its adoption in 2012, the Masterplan has informed National Ports Policy and Transport Policy as well as planning and permitting authorities in determining policies and proposals concerning Dublin Port. It is explicitly referenced in the City Development Plan 2016-2022 and in SI 279 of 2016 which established the Poolbeg West SDZ.

The Masterplan has also informed the provisions of the National Planning Framework's (NPF) which addresses Dublin Port in a national planning context. The NPF's National Strategic Outcome 4 includes *"Facilitating the growth of Dublin Port through greater efficiency, limited expansion into Dublin Harbour and improved road access, particularly to/from the southern port area"*.

The NPF's National Policy Objective 40 also seeks to ensure that the strategic development requirements of Tier 1 ports (which include Dublin Port) are addressed as part of Regional Spatial and Economic Strategies (RSES). In the case of Dublin Port, the relevant RSES is that of the Eastern and Midlands Region.

Strategic Objectives Underpinning the Masterplan

The Masterplan has been prepared to meet a number of strategic objectives identified by Dublin Port Company as necessary to facilitate the effective operation of the Port in the period to 2040.

The key objectives are set out below:

Port Functions

- Ensure the safe operation and sustainable development of the Port and its approach waters and provide appropriate infrastructure, facilities, services, accommodation for ships, goods, and passengers to meet future demand.
- Optimise the use of the lands on the Port estate through rationalising the distribution and location of specific areas of activity such as Ro-Ro, Lo-Lo, ferry services, Cruise Ships, Liquid / Bulk Goods and storage areas with necessary reconfigurations of service facilities as required.
- Recover lands that are not being used for critical port activity and re-use for such activity.
- Develop quaysides adjacent to deep water to their maximum in accordance with

environmental / licensing requirements.

- Use new and developing technology to increase throughput to its maximum.
- Identify configurations for extending berthage and storage that mitigate impact on adjacent environmentally sensitive / designated areas.
- Provide adequate water depth to accommodate larger / deeper draught vessels in accordance with environmental / licensing requirements.

Investment and Growth

- Utilise the Masterplan as a framework for investment and growth based on the Port's projected demand forecasts.
- Maximise throughput by means of structured charges for land usage and cargo storage.

Integrating with the City

- Achieve closer integration with the City and people of Dublin through a commitment to respect soft values associated with the location, operation and impact of the Port.
- Promote movement linkages in the form of pedestrian and cycle routes.
- Enhance the general aesthetics / visual impact of the Port around the interface with the City.

Movement and Access

- Provide for a public transport route to serve passengers and those working within the Port to improve the modal transport split.
- Develop a transport plan for the Port estate in conjunction with the National Transport Authority and Dublin City Council.
- Promote non-motorised sustainable transport modes, including cycling and walking.
- Maximise the use of rail transport for goods to and from the Port.
- Promote the provision of future transport infrastructure that facilitates shipping and related Port activities.
- Enhance existing infrastructure to provide dedicated access / exit routes to Port facilities.

Environment and Heritage

- Ensure a development framework that is compatible with the adjoining areas with particular regard for areas in Dublin Bay which are designated under the Habitats Directive and the Birds Directive. This development framework will also take account of the recommendations and mitigation measures arising from the SEA, Appropriate Assessment (AA) and other relevant plans for the protection of natural resources, including the protection of water resources, designated and non-designated sites, aquatic ecology and protection against flood risk.
- Integrate new development with the built and natural landscapes of the surrounding area.
- Promote sustainable design in the natural and built environment.

- Secure the preservation of all protected structures within the Port estate.
- To promote in the development of future port facilities the principles of universal design to make environments inherently accessible for those with and without disabilities.
- A promotion of excellence and focus on good quality in design where possible.

Recreation and Amenity

- Promote Dublin Port for recreation and amenity by highlighting walks and cycle routes offering facilities for bird watching and viewing wildlife as well as views of the Bay and the wider environment as well as the activity within the Port.
- Develop landmark attractions such as a Port Heritage Centre.
- Maximise public access to the waterfront and enhance the public realm by landscaping and by high cleanliness standards.

Security

- Ensure that key areas of the Port retain good security provision in accordance with ISPS requirements.

Future review

- Identify a strategy for future review of the Masterplan against underlying assumptions and performance of the Port business and also assess how the Masterplan is achieving its objectives and targets.

A detailed analysis of progress against each of these Strategic Objectives between 2012 and 2017 is set out in the Masterplan Review 2017 Consultation Paper, available on the Dublin Port Company website www.dublinport.ie/masterplan.

Strategic Environmental Assessment and Appropriate Assessment

Dublin Port Company, as the competent authority responsible for the preparation of the Dublin Port Masterplan, determined that a full and comprehensive Strategic Environmental Assessment of the Plan was necessary and desirable as part of the process for producing the Masterplan. Following consultation with key stakeholders the Company also determined that the Masterplan Review should undergo a similar rigorous assessment process which would update and complement the original assessments carried out in 2012.

The SEA process for this Masterplan includes:

- Screening: to determine which plans and programmes are likely to have a significant impact on the environment.
- Scoping: to liaise with statutory consultees to identify key issues of concern that should be addressed in the environmental assessment of the Plan.
- Environmental Report: to identify and evaluate the likely significant environmental

effects of implementing the Masterplan.

- Consultation: Consult the public, statutory and regulatory authorities, on the environmental report and the Masterplan proposals, giving adequate time for the receipt of submissions.
- Final Environmental Report: Take account of the findings of the draft report and the outcome of consultations in deciding whether to modify the draft Masterplan.
- SEA Statement: To make known on the adoption of the plan how the SEA process influenced the outcome and to identify how environmental considerations have been integrated into the Plan.

In addition, an Appropriate Assessment (AA) has also been undertaken in accordance with the Habitats Directive and a Natura Impact Statement (NIS) prepared to accompany the Masterplan.

Planning and Environmental Policy Context

EU Directives and Policy

The Birds Directive (2009/147/EC) and The Habitats Directive (93/43/EEC) are the cornerstones of EU biodiversity policy. Both directives require Member States to designate specific terrestrial and marine sites, which together constitute the Natura 2000 network. This network consists of Special Protected Areas (SPAs) -protecting bird species - and Special Areas of Conservation (SACs) - protecting habitats and other species of EU conservation concern.

Dublin Bay has a number of designations as follows:

- South Dublin Bay and River Tolka Estuary SPA (004024)
- North Bull Island SPA (004006)
- South Dublin Bay SAC (000205)
- North Dublin Bay SAC (000210)
- Rockabill to Dalkey Island SAC (003000)

Figure 1 illustrates the areas involved.

The Strategic Environmental Assessment Directive (2001/42/EC) (SEA) relates to the evaluation of the effects of certain plans and programmes on the environment. The purpose of the SEA Directive is to ensure that the environmental consequences of certain plans and programmes are identified, assessed and taken into account during their preparation and before their adoption.

The Environmental Impact Assessment (EIA) Directive (2004/35/EC) relates to the assessment of the effects of certain public and private projects on the environment.

While the SEA process operates at the level of public plans and programmes, (EIAs operate at the level of individual public and private projects. **The Masterplan, therefore, cannot assess impacts from individual projects. However, any future projects brought forward under the**

Masterplan will, of necessity, require the preparation of a specific EIA Report (EIAR).

The Water Framework Directive (2000/60/EC) (WFD) covers estuaries and coastal water bodies. The WFD establishes a framework for the protection of all surface waters (rivers, lakes, transitional and coastal) and groundwater at EU level and aims to achieve a good ecological status (or a good ecological potential for heavily modified water bodies) and a good chemical status by 2015.

The Marine Strategy Framework Directive (2008/56 EC) (MSFD) provides a more comprehensive view and deals also with ecosystem services in marine areas. It establishes a framework for the protection and restoration of marine ecosystems. According to this directive, Member States must take the necessary measures to achieve or maintain a good environmental status (GES) in the marine environment by the year 2020.

The EU Shellfish Directive (2006/113/ EC) aims to protect and improve shellfish waters in order to support shellfish life and growth. The closest designated shellfish waters are located approximately 9.5km from the Port estate. In accordance with the requirements of the Directive, Pollution Reduction Programmes have been developed by the former Department of Environment, Community and Local Government for these designated areas, with the aim of protecting and improving the water quality for shellfish in these areas.

The European Commission Recommendation on Integrated Coastal Zone Management (2002/413/EC) (ICZM) paves the way for better strategic planning of coastal areas which maintains the integrity of this important resource while considering local traditional activities and customs that do not present a threat to sensitive natural areas and to the maintenance status of the wild species of the coastal fauna and flora.

The EU White Paper (Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, 2011) has at its core the challenge of achieving a reduction of at least 60% of GHGs by 2050 with respect to 1990 from the transport sector. Beyond this central target, the White Paper identifies specific goals to achieve this, including:

- Reduce EU CO₂ emissions from maritime bunker fuels by 40% (if feasible 50%) by 2050.
- Shift 30% of road freight over 300 km to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors.
- Ensure that all core seaports are sufficiently connected to the rail freight and, where possible, inland waterway system by 2050.
- The EU Ports Policy Communication of 2013, COM (2013) 295, *Ports: an engine for growth*, set out a range of actions necessary to address a range of specific challenges in the EU port system (including port capacity, environmental performance, growth of the cruise industry and developments in the energy sector).

Since the Masterplan was published in February 2012, EU Ports policy has been implemented in a number of new measures:

- EU Regulation 1315/2013 on EU guidelines for the development of the TEN-T network
- EU Directive 2014/23 on the award of concession contracts, including in ports.
- EU Regulation 2017/352 establishing a framework for the provision of port services and common rules on the financial transparency of ports
- Commission Regulation 2017/1084 to extend the Global Block Exemption Regulation to ports
- The *Ports of the Future* call as part of the Horizon 2020 programme to encourage innovation in ports and the links with port cities

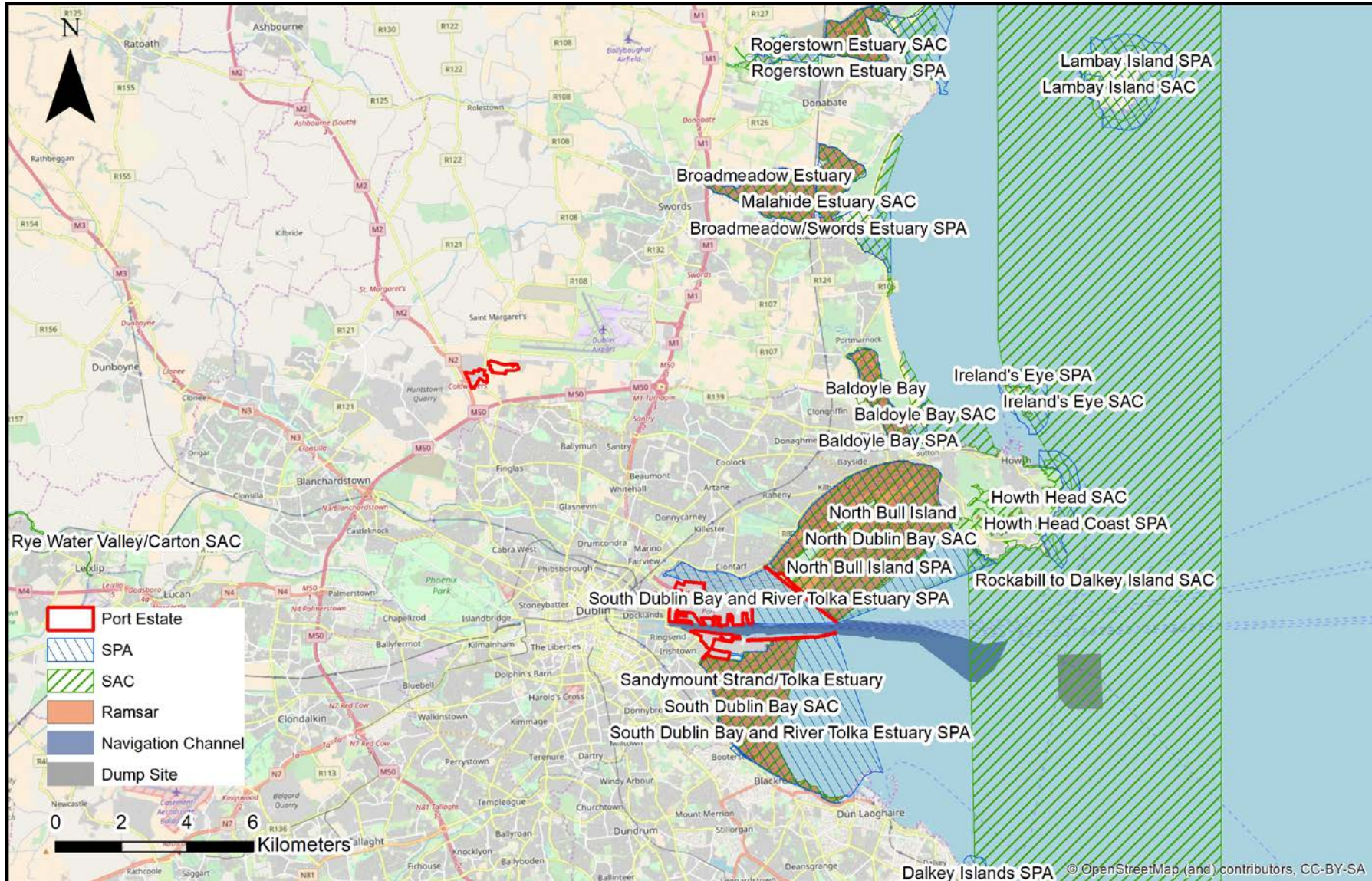
The European Sea Ports Organisation (ESPO) has produced Codes of Practice which provide a general framework with regard to European port development. These Codes of Practice outline policies and objectives with regard to the Birds and Habitats directives, societal integration of ports and on the environmental management and development of ports.

The Maritime Spatial Planning Directive (2014/89/EU) highlights that integrated spatial planning (including maritime spatial planning) offers opportunities to anticipate difficulties and adverse environmental impacts and to avoid potential conflicts and delays in project development. Such plans should be submitted to strategic environmental assessments, and also to appropriate assessments under the Habitats Directive – to evaluate the potential impacts of plans and projects on Natura 2000 sites.

Integrating Biodiversity and Nature Protection into Port Development (2011) and The Implementation of the Birds and Habitats directive in Estuaries and Coastal Zones (2011) outline how to effectively integrate biodiversity with the development of Ports. The key stakeholders are port authorities, dredging companies, private investors, member states' administrations and environmental groups. It advocates a better understanding of the context, improved planning of projects, integration of SEA and EIA into plans and projects, in addition to the better management of dredging.

With specific regard to future dredging proposals, appropriate consideration will be given to ensure that water quality is protected in line with the requirements of the WFD referenced above. All dredging works will continue to be undertaken in accordance with licensing / legal requirements of the Foreshore and Dumping at Sea (Amendment) Act 2009.

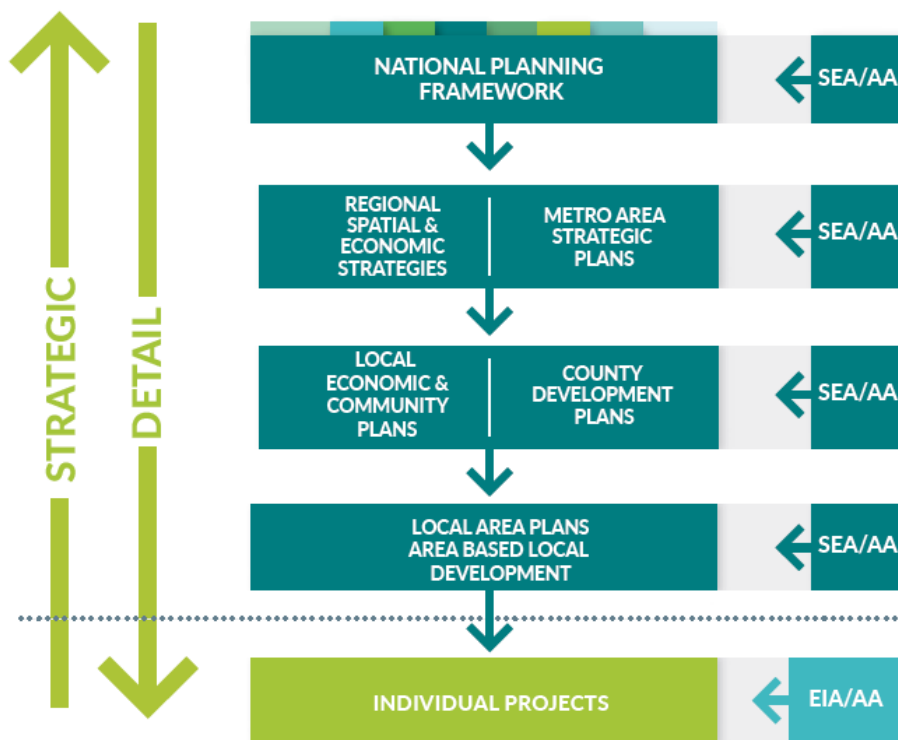
Figure 1: Sites with International Environmental Designations



National Policy

Project Ireland 2040 was published by the Government in early 2018 and represents the Government's overarching policy initiative to advance economic and social progress. Project Ireland is made up of the National Planning Framework (NPF) to 2040 and the National Development Plan 2018 -2027 (NDP). Ensuring high quality international connectivity is one of ten strategic outcomes identified in Project Ireland 2040.

The NPF is the Government's high level plan for shaping the future growth of Ireland out to 2040 and is the successor to the NSS. The NPF's time horizon coincides exactly with that of Dublin Port's Masterplan 2040. The NPF is at the top of the national planning hierarchy as illustrated below.



Source: Project Ireland 2040 National Planning Framework, Page 156

Within this hierarchy, Dublin Port's Masterplan sits at the level of area based local development.

The National Development Plan 2018 – 2027 recognises the importance of high quality international connectivity and commits to investment in Ireland's Ports as constituting Strategic Investment Priorities. The NDP specifically references the Alexandra Basin Redevelopment Project at Dublin Port as one of the largest major capital infrastructure project occurring in a Tier 1 Port. The NDP as National Strategic Outcome 6 identifies an additional €4.8bn investment in Airports and Ports as a key priority.

The National Ports Policy (2013) notes the importance of Dublin Port as a Tier 1 Port and specifically states:

“ The Government endorses the core principles underpinning the company’s Masterplan and the continued commercial development of Dublin Port is a key strategic objective of National Ports Policy” (NDP page 24)

A series of formal Ministerial Guidelines have been issued under S28 of the Planning and Development Act 2000. The following Guidelines have been taken into account in the preparation of the Masterplan:

- The Planning system and Flood Risk Management - Guidelines for Planning Authorities (2009).
- Architectural Heritage Protection – Guidelines for Planning Authorities (2004).

Smarter Travel – A Sustainable Transport Future 2009 - 2020 (2009) is a national policy document, which sets out a broad vision for the future and establishes objectives and targets for transport.

At the time of the first review of this Masterplan, a National Clean Air Strategy is in preparation. So also is a National Adaptation Framework building on the National Climate Change Adaptation Framework (NCCAF) of 2012.

Regional policy

During the period of the Masterplan Review, the NPF has been finalised at the top of the national planning hierarchy.

At the next level down, the Regional Spatial and Economic Strategy (RSES) of the Eastern and Midlands Region (EMR) is being prepared. Dublin Port Company’s submission to the EMR requested that its RSES support:

1. The completion by DPC of at least four Strategic Infrastructure Development Projects needed to implement the complete vision of the Dublin Port Masterplan by 2035.
2. The development by DPC of the Dublin Inland Port.
3. The provision by 2030 of a Southern Port Access Route to link the Poolbeg Peninsula to the Dublin Port Tunnel to enable DPC to complete SID projects there to provide the final capacity envisaged in the Dublin Port Masterplan.
4. The development by DPC of new port facilities at another location on the east coast within the Eastern Midlands Region by 2040 to cater for growth post-2040.

The Transport Strategy for the Greater Dublin Area, 2016 – 2035, published by the National Transport Authority, sets out how transport will be developed across the region. The Strategy reaffirms that the safeguarding of landside access to Dublin Port is a priority strategic objective for all the relevant agencies. The Strategy supports the need to facilitate the expansion of activity at Dublin Port into the future as a commercial and passenger port through the

identification and safeguarding of designated access routes. It is the policy of the Strategy to retain a corridor for the provision of a possible future Eastern Bypass, linking Sandyford with the Port Tunnel.

The development of the Southern Port Access Route (SPAR) road link connecting the southern end of the Dublin Port Tunnel to the South Port area is identified as a project to be delivered over the lifetime of the Strategy.

The NPF identifies this project as part of National Strategic Outcome 4 (*High Quality International Connectivity*).

Finally, within the NDP 2018-2027, the National Roads Programme 2018-2027 identifies the SPAR for *pre-appraisal / early planning*.

The Dublin City Biodiversity Plan 2015 - 2020, developed by Dublin City Council presents a range of strategic actions with regard to the protection and improvement of biodiversity in Dublin. Actions are identified in this plan with regard to the management and enhancement of designated areas and flora and fauna identified in the vicinity of the Port estate.

The Dublin City Public Realm Strategy (*Your City Your Space*) of 2012 seeks to co-ordinate the development of the public realm across plans and major projects in the City,

Local plans and projects

These include the following:

- The Dublin City Development Plan 2016 – 2022
- The North Lotts & Grand Canal Dock SDZ (SI 530 of 2012) and subsequent Planning Scheme
- The Poolbeg West SDZ Strategic Development (SI 279 of 2016) and its related Planning Scheme
- The Dublin City Council Cruise Tourism and Urban Regeneration Local Action Plan 2011
- The Dublin Docklands Area Masterplan 2008

The Dublin City Development Plan includes objectives that recognise the importance of the Port to the economic life of the city as well as zoning objectives for Port lands.

The Development Plan emphasises the Policy of DCC to support and recognise the important national and regional role of Dublin Port in the economic life of the City and the Region and to facilitate port activities and development with regard to this Masterplan. The Development Plan also recognises Dublin Port as a key economic resource, including for cruise tourism.

Dublin Bay Biosphere

Although it does not have a statutory basis, the creation of the UNESCO designated Dublin Bay Biosphere in 2015 as a partnership between Dublin Port Company, three local authorities

(Dublin City, Dun Laoghaire Rathdown and Fingal County), NPWS and, latterly, Bord Fáilte is an important initiative for the implementation of the Dublin Port Masterplan.

The Biosphere seeks to support the sustainable development of an area of over 300 km² with a population of 300,000 and including areas of high natural value (50 km²), buffer zones of green spaces (82 km²) and transition zones (173 km²) including residential areas, commercial areas, industrial areas and, importantly, Dublin Port and other harbour areas.

The Paris Agreement

The Paris Agreement of December 2015 seeks to limit global warming to well below 2°C compared to pre-industrial levels. Ireland is one of approaching 160 countries of the 195 signatories to the agreement that have so far ratified it.

Ports are nodes that link shipping (responsible for 2.4% of global greenhouse gas emissions¹) and road transport (with HGVs and other large vehicles accounting for 25% of greenhouse gas emissions from road transport in the EU and 5% of overall EU emissions). Ports are also nodes for the international movement of hydrocarbon fuels.

The acceleration of policy initiatives deriving from the commitments under the Paris Agreement will be a major feature of the planning and policy environment through to the end of the Masterplan period in 2040.

The Area and Context

The Masterplan Area

The area of the Masterplan includes the entire Dublin Port Area of which the Port Estate forms the greater part.

Figure 2 shows Dublin Port in the context of Dublin Bay and also in relation to Dublin Inland Port.

The Masterplan area covers the operational port, which is used for shipping, cargo handling and storage as well as ferry and cruise ship activities. There is a leisure boating area on the southern side of the Port mainly associated with the Poolbeg Yacht Club, rowing clubs and private boat owners. Aside from shipping activities the Port area accommodates significant utility installations that serve the Dublin region.

In addition to the lands at Dublin Port, DPC has acquired 44 hectares of lands 14 km from the Port which are being developed as Dublin Inland Port, located within the administrative area of

¹ Third IMO Greenhouse Gas Study 2014

Fingal County Council. These lands will be subject to local master-planning in the context of future permitting consent applications to Fingal County Council and have been assessed as part of the SEA and AA conducted for the review of this Masterplan.

The Natural Environment

The SPAs and SACs referred to above contain internationally as well as locally important bird species and populations. The issues involved in planning for the Port in proximity to these designated areas are considered in some detail in Section 10 of the Masterplan.

Cultural Heritage

Dublin Port and the immediate area have a number of elements of historic and engineering interest including the North and South Bull Walls as well as Dublin City Council's Pigeon House Harbour. Specific suggestions on developing heritage and cultural initiatives associated with the Port are contained in Section 8 of the Masterplan.

Development Options

A number of scenarios have been considered as part of the overall strategy for the Masterplan area.

Section 5 of the Masterplan sets out the infrastructure development proposals which have been advanced following an assessment of the options available for the provision of port capacity in Dublin Port.

This has involved assessing what is possible by reference to:

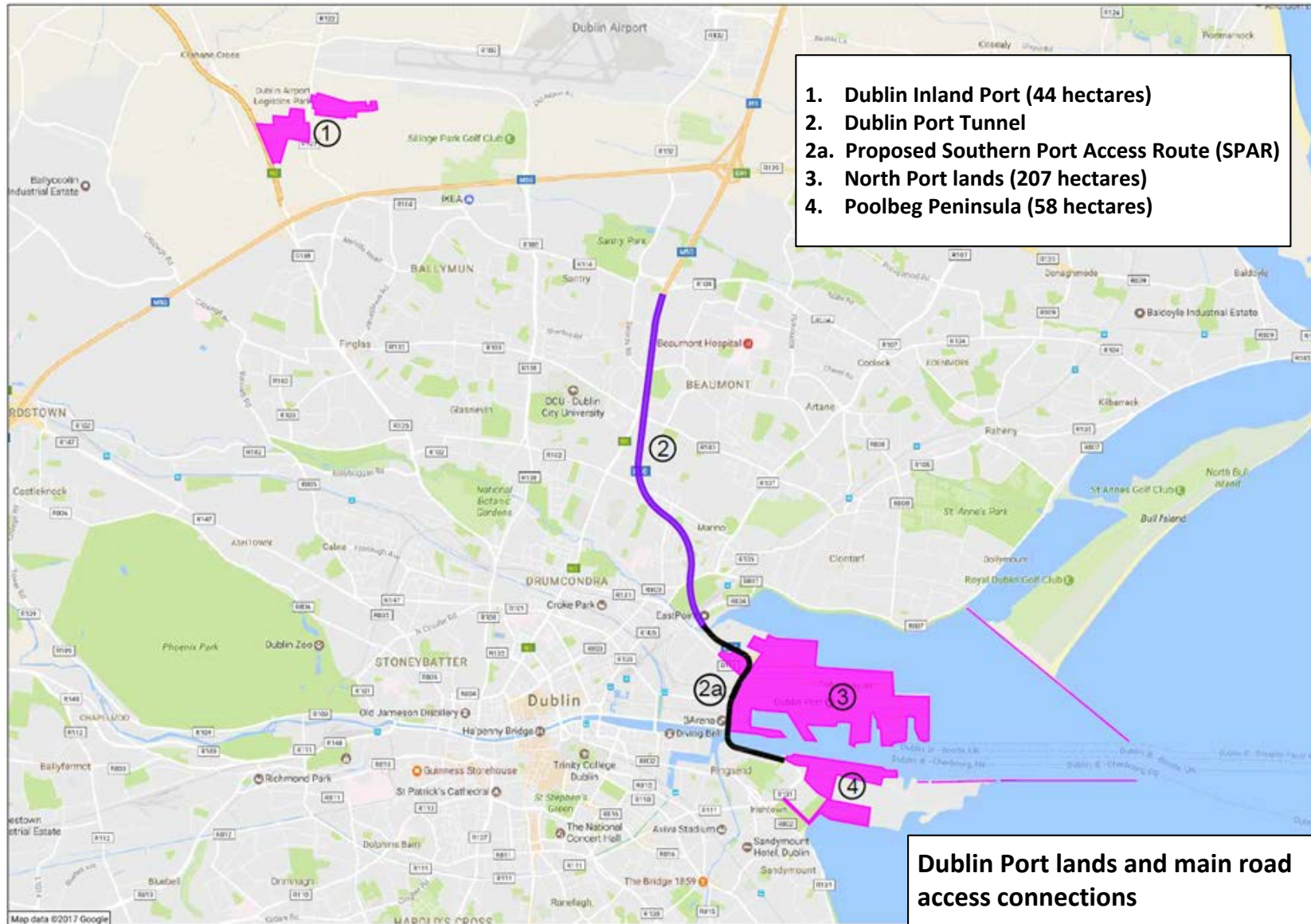
- Planning constraints
- Navigation and engineering feasibility
- Economic feasibility
- Transportation links
- Legal constraints
- Environmental constraints

A detailed consideration of the alternatives to the proposed development options is contained in the SEA of the Masterplan.

The development options presented in section 5 **are not** a prescriptive menu of developments that will be carried out in Dublin Port. Rather they are a set of possible **options** that need to be assessed before being developed by reference to issues of demand and capacity, and that are subject to completion of the relevant planning and consents requirements.

Where individual applications are advanced during the Masterplan period they will be required to demonstrate that the option chosen is justified following a consideration of the alternatives at that time and by reference to the necessity and impacts of the proposed development.

Figure 2: Land areas covered in the Masterplan 2040



- Economic projections
- Trade volumes
- Capacity projections

4. FORECASTS

A General Economic Overview

When the Masterplan was published in 2012, the outlook for the Irish economy looked challenging in the short- and medium- term as the country adjusted to the changed realities following the unprecedented economic shock after 2008.

At the time of the Masterplan Review 2017 the economy has improved significantly. The improvement in the public finances, the remediation of the banking system and the restoration of competitiveness to the economy has been mirrored by 30.1% growth in trading volumes in Dublin Port over the five years from 2013 to 2017. International challenges remain, most notably the impact of Brexit on Irish trading relationships with the United Kingdom, but cargo volumes are expected to grow in line with increased economic activity and population growth.

Ireland is a textbook example of a small open economy, where trade in goods and services is of key importance. Following the sharp contraction in domestic economic activity after 2008, Ireland's near-term economic recovery and longer-term return to prosperity has been crucially determined by the export sector.

As a small open economy which lacks a domestic market of sufficient scale to support itself, there is a clear recognition that exports will be an essential element of the future Irish economic model. Companies based in Ireland are being actively supported by official agencies to source and secure international markets for their goods and services.

Imports of goods are also of strategic importance to the Irish economy, not just as inputs to domestic consumption, but also as essential inputs to the production process of goods for export.

The quality of the air and sea access infrastructure is a critical element in serving the internationally traded side of the economy. There is a general recognition that the quality and efficiency of ports and airports are crucial components of Ireland's competitiveness. The quality of air and sea port access must be of the highest international standards in order to facilitate merchandise trade in a competitive manner.

Between 2000 and 2008, Ireland lost considerable international cost competitiveness. This loss of competitiveness was instrumental in the slowdown in both service and merchandise exports, and the pressure on the capacity to attract foreign direct

investment. Following the onset of recession in 2008, Ireland's external cost competitiveness improved as most prices and costs responded to the changed economic circumstances.

Ireland's economy has recovered strongly in recent years following the economic collapse in 2008. The volume of merchandise exports in 2016 was 22% ahead of the pre-crash level of 2007 while merchandise imports were 12% higher.

The improvement in Ireland's trading performance is reflected in the main economic metrics. Personal consumption at constant (2015) market prices fell from €90.1 billion in 2010 to a low of €87.2 billion in 2013 but has since recovered and reached €95.7 billion in 2016. The unemployment rate at the start of 2010 was 13.8% and reached a high of 13.0% during 2012. By February 2018, unemployment had fallen to 6.0% and was on a downward trend.

Before the economic crash, employment in Ireland had peaked at 2,170,000 (Q3 2007) but fell to 1,825,000 at the time the Masterplan was published (Q1 2012).

At the time of the first review, employment had reached 2,045,000 (Q1 2017) and the National Planning Framework to 2040 is being finalised based on a possible employment level of 2.5m in 2040.

Forecasts for economic growth in Ireland from a variety of sources (including the Central Bank and the EU) are positive.

As a small open economy Ireland is subject to fluctuations in global demand which have the effect of causing fluctuations in external trade flows. However, trade remains a very important component of Irish economic and social life, particularly as the country grows.

Cargo volumes through Dublin Port are directly related to economic activity which is in turn driven by population growth. The National Planning Framework estimates that by 2040 Ireland will see an increase in population of approaching one million, with half a million additional homes. Dublin Port needs to plan to provide the port infrastructure required by such growth.

In determining future growth projections for Dublin Port it is reasonable to assume that the demand for port infrastructure will continue to increase exponentially in the years to 2040. This is based on the established trends for many years and the expected growth in key factors driving underlying economic activity to 2040, particularly population growth. Between 1950 and 1980, the Port's volumes grew at an average annual growth rate of 3.2%. Over the next 30 years to 2010, this increased to 4.7% per annum. The key question for Dublin Port to determine what the long run growth assumption to 2040 should be.

When this Masterplan was first produced in 2012 the original assumptions of growth levels at Dublin Port were that port volumes would grow from 28.9m gross tonnes in

2010 to 60.0 m gross tonnes in 2040, This is equivalent to an average annual growth rate of 2.5% over 30 years.

Whereas the original projections indicated that port volumes would effectively double by 2040, the rate of growth in the period since the Masterplan was first produced now suggests that volumes will reach these levels by 2032 and will have reached 77m gross tonnes by 2040. This would represent an annual average growth rate of 3.3%.

The growth rate also takes account of actual average annual growth rates from 2010 to 2017 of 3.8% and the following modest projections for year on year growth through from 2017 – 2040:

	Year on year growth rate
2017 to 2019	5.0%
2020 to 2029	4.0%
2030 to 2040	3.0%

Dublin Port Company believes that these growth projections are reasonable in light of:

- A continuing focus by Government to develop Ireland based on an export driven economic growth model.
- The continuation of a vibrant multinational manufacturing sector (dominated by the chemical, pharmaceutical and IT industries).
- The strong contribution that food and drink exports will make to Ireland’s future growth model in response to clear Government policy.
- The focused targeting by Government of emerging economies such as India and China.
- A demographic profile which will ensure that imports of consumer goods should continue to grow.
- The strategic requirement for imports to drive production processes.
- The established relationship between economic performance and growth in the throughput at Dublin Port over many decades.
- The increase in population from 2.96m in 1951 to 4.67m in 2016 and its possible expansion to around 5.6m by 2040 as expected in the National Planning Framework

Anticipating Future Growth

In advancing the Masterplan for Dublin Port to 2040, it is intended to show how the Port could handle 77 million gross tonnes by 2040, which is based on an annual average growth rate of 3.3% over the 30 years from 2010 to 2040.

Dublin Port Company’s best estimate of how this overall growth will be spread across the various cargo modes is as follows:

	2010 '000 gross tonnes	2040 '000 gross tonnes		AAGR
	<i>Actual</i>	<i>Original</i>	<i>Revised</i>	<i>Revised</i>
Ro-Ro	16,403	41,920	54,287	4.1%
Lo-Lo	6,317	10,480	15,270	3.0%
Bulk Liquid	4,009	4,000	4,000	0.0%
Bulk Solid	2,054	3,500	3,500	1.8%
Break Bulk	96	100	100	0.1%
Total tonnes	28,879	60,000	77,157	3.3%
Ro-Ro ('000 units)	701	1,737	2,249	4.0%
Lo-Lo ('000 units)	377	635	926	3.0%
Totals	1,078	2,372	3,174	3.7%
Lo-Lo ('000 TEU)	641	1,080	1,574	3.0%

Even in the context of the Brexit, Dublin Port Company believes that merchandise trade flows in and out of Ireland should continue to expand to 2040, albeit not at the levels of growth that occurred between 1992 and 2002.

This potential throughput growth rate of 3.3% is modest, reasonable and achievable in light of historical growth rates, anticipated population growth levels to 2040 and resultant economic activity. In the context of the performance of the Port over 60 years and in particular in the period since the Masterplan was adopted in 2012, Dublin Port Company believes that reaching 77 million tonnes by 2040 is a reasonable and prudent basis upon which to plan the future development of the Port.

It is important to emphasise that the 3.3% projected annual average growth rate is a planning assumption based on the options and plans to provide sufficient additional port capacity which have been identified. Given the long leadtime to deliver port projects, the sequencing of the implementation of actual projects can be determined by reference to actual growth rates at the time.

Unlike other major European Ports, Dublin Port does not have significant land reserves to provide a range of development options to cater for future growth. Consequently, it is essential that projects are consented and fully funded, ready to provide additional capacity as and when needed.

Dublin Port and the Greater Dublin Area

In assessing the potential capacity of Dublin Port through to 2040, one significant aspect is the proximity of the Port to the main markets in Ireland.

A 2011 origin and destination study carried out for Dublin Port Company determined that 21% of all goods going through Dublin Port are within the M50 area. A further 33% are

for customers outside the M50 and up to 70km from Dublin Port. The remaining 46% of the Port's hinterland is more than 70km from the Port.

In the period to 2040, the Greater Dublin Area will retain its primary importance in the national economy. The census of population shows that the population of the GDA increased by 5.7% between 2011 and 2016 while the population in the rest of the country grew by 2.4%.

Employment and manufacturing densities are also higher in the greater Dublin area than elsewhere. Dublin Port is at the heart of this market and its location at the edge of a dynamic and vibrant region means that it is well positioned to serve this market in an effective and efficient way to 2040 and beyond.

Finally, shippers from all over the country will continue to be attracted to use Dublin Port due to the positive benefits of major infrastructural investments such as the Dublin Port Tunnel, the completion and widening of the M50 and the major expansions to the radial road network centred on Dublin.

Planning for the Future – Anticipating Future Trends

Dublin Port's main function is to facilitate the movement of goods and people on an efficient and cost effective basis. To plan to fulfil this objective through to 2040 requires Dublin Port Company to examine the existing port estate and to determine how the Port can achieve an optimal performance taking account of current transport methods and developing trends in merchandise trade.

To achieve this objective Dublin Port Company prepared a series of internal reports on the movement of goods and people by reference to the specific categories of transport involved. These Reports provided helpful guidance on how the Port can optimise current performance and plan for the future. The key findings of the reports have provided guidance on the configuration of the Port to 2040 and assist with maximising the effective use of land and quayside resources. The findings of these reports and the assumptions made in respect of different transport methods were also reviewed in the Consultation Paper underpinning the Masterplan Review initiated in 2017.

The Review confirmed that Dublin Port is the largest port in Ireland and handles 44% of all port volumes, rising to 79% of the country's total volume in the higher value and faster growing unitised modes.

The anticipated future trends in merchandise trade and passenger traffic and their implications for future capacity at Dublin Port are set out below by reference to the different transport modes.

Ro-Ro Requirements

On the basis of current trends Ro-Ro freight will remain the largest component of the Port's traffic to 2040. Dublin Port Company anticipates that Ro-Ro will grow most with volumes rising from 0.7m units in 2010 to 2.2m units by 2040.

Providing for the growth in capacity in Ro-Ro freight will be a significant challenge for Dublin Port and imposes a requirement to ensure that there are high levels of utilisation of Port land for both accompanied and unaccompanied Ro-Ro freight (which increasingly includes containers) and requires more land. On the basis of the current configuration of Ro-Ro freight at Dublin Port, the Company believes that higher levels of land utilisation can be secured for both categories of Ro-Ro freight. This will allow the Port to cater for considerable increases in volumes over the next 30 years through existing land areas at the expense of less urgent land use requirements.

Lo-Lo Requirements

Analysis by Dublin Port Company suggests that the putative volume of Lo-Lo trade by 2040 will be 1.6m TEU. This demand can be met by the provision of more land for container terminals and reducing the dwell time of containers.

Additional berths and facilities for Lo-Lo trade may be required, however, if existing operators face restrictions on their capacity to increase throughput. Additionally, if the size of container ships increases over the period of the Masterplan there may be a requirement to build deeper berths to accommodate these vessels. There is potential to build new deep berths immediately in front of the ESB Poolbeg Power station.

Accordingly Dublin Port Company is satisfied that through a combination of utilising existing facilities and the possibility of building new facilities, there will be adequate capacity to allow the Port handle future volumes of Lo-Lo container trade over the next 30 years.

Cruise Facilities

The Cruise business at Dublin Port has grown significantly in recent years. In 2017, Dublin Port attracted 127 cruise ships with 210,050 visitors. There is potential for significant further increases in the cruise business, particularly in light of the synergies between Dublin Port and Dublin Airport and the wider connectivity which would facilitate the development of Dublin as a commencement port for cruises. There is interest from major cruise operators to use Dublin as a turnaround port and, in 2018, one cruise ship will use Dublin as a base for a mini-season comprising five cruises to different European locations.

Most of the financial benefit of cruise ship operations in Dublin Port accrues to operators in the tourism sector and in the retail sector. The cruise business makes a small contribution to Dublin Port's overall revenues and is not at a level to justify the Company allocating significant capital funding specifically for the development of a new cruise turnaround centre.

The Port recognises that new cruise facilities will be required to further develop this business and develop future growth prospects. As a key part of the Company's vision of integrating the Port with the City, the relocation of the cruise liners closer to the city centre provides a real opportunity to create a strong visible link. The sight of cruise liners so close to the city will provide a dramatic backdrop. It will also facilitate passengers from cruise ships accessing the city directly and ensure an increased usage of the city's public transport infrastructure. The ABR Project, which has commenced, provides for the development of multipurpose berths on North Wall Quay Extension, which can be used during the summer months to accommodate the world's largest cruise ships two at a time directly adjacent to the Tom Clarke Bridge

Dublin Port Company recognises that the development of the cruise industry is of wider strategic importance to the City of Dublin, as reflected in the Cruise Tourism and Urban Regeneration Local Action Plan published by Dublin City Council in June 2011. The development of a cruise turnaround business where cruise ships start and finish tours in Dublin is far more valuable to the economy than a port of call operation. This would require terminal facilities at the cruise berths and additional large (up to 600 beds) hotels close to the Port. A means of securing co-financing for the development of the required facilities needs to be found to realise this vision.

Dublin Port Company could, however, part fund the development but additional funding would be needed from other sources. Dublin Port Company will engage with Dublin City Council, Fáilte Ireland, the Department of Transport, Tourism and Sport, and other potential funders to explore how such funding could be secured to facilitate this development.

Passenger Ferry Services

In addition to the growth in passenger volumes from cruise tourism, there will be growth in ferry passenger volumes as the frequency of Ro-Ro ferry services increases in future years, as ferry operators introduce new large ships on routes both to British and French ports. Passenger volumes increased from 1.76m in 2010 to 1.85m in 2017.

Trade Vehicles

The economic downturn had negatively impacted on the level of vehicle imports through Dublin Port. In 2007, at the peak of the boom, 144,866 cars and other vehicles were imported through Dublin Port and this accounted for 58.4% of total imports of trade vehicles through Irish ports. By the end of 2011, Dublin Port's throughput had declined to 48,813. These volumes have now been established at more sustainable levels of 100,000 new trade vehicles per annum.

Trade cars require significant transit storage capacity and cars also need to be stored in safe, clean areas with high security. The mobility of cars means that they can be stored away from the quay walls which can then be freed up for other types of cargo, including unitised freight.

To achieve this, Dublin Port Company has developed and operates a transit storage area for

trade cars which is on port lands disconnected from the main port estate. This development has freed up lands close to the quay for other trade purposes and alleviates immediate demands for increased reclamation over the short term.

Bulk Liquid

Over the period of the Masterplan, Bulk Liquid (mainly comprising of petroleum products) is expected to, at most, stabilise at about 4m tonnes per annum. Decisions in some major countries (such as France and the UK) were followed by the decision in the National Development Plan 2018-2027 that no new non-zero emission vehicles will be sold in Ireland after 2030. This development will presage a fundamental change in the demand for petroleum in Ireland over the remaining years of the Masterplan.

As Dublin Port Company does not expect any significant increase in the volume of liquid bulk through the Port to 2040 the Port will not seek to facilitate the growth of petroleum products. Dublin Port Company will actively seek to reduce the land area currently occupied by terminals for petroleum facilities and instead use the land freed up for unitized cargo.

Bulk Solid

Bulk Solid includes products from the agricultural, energy, mining and construction sectors. Bulk commodities include grain, animal feeds, fertiliser, peat moss, cement, petroleum coke, furnace slag and scrap metals. Dublin Port also handles exports of lead and zinc ore concentrates from Tara Mines.

Over the period of the Masterplan it is projected that there will be a growth in Bulk Solids from 2.1m tonnes per annum to 3.5m tonnes by 2040, which will be largely driven by a mix of construction commodities and biomass for power generation.

Future demand for agricultural cargo will depend on demand for cereals and animal feeds and is expected, at best, to remain flat. Anticipated strong growth in Ireland's agri-food exports identified in 2010 is expected to be challenged following Brexit. However, the sector has shown great resilience and any increase in agri-food exports is likely to be seen within the Port's unitised modes, reflecting the higher value added nature of these exports.

To accommodate the existing and anticipated level of trade in Bulk solid and to facilitate other types of freight activity over the period of the Masterplan, some improvements and consolidation of existing areas for handling these materials will be required. Some additional facilities may be required to accommodate growth in specific commodities such as solid biomass.

Break Bulk

Break Bulk, which is the most land intensive cargo mode, has largely disappeared from Dublin Port due to unitised trade and use of smaller east coast ports. Over the period to 2040, Dublin Port Company expects break bulk trade at the Port to decline to negligible levels and to be largely confined to occasional project cargoes such as wind turbines, large industrial plant and major prefabricated components for construction projects.

- Proposals to deliver new capacity
- Reconfiguration of existing facilities
- Intensification of land use within the Port
- Engineering options

5. INFRASTRUCTURE PROPOSALS

The Masterplan Approach

One of the key outputs from the Masterplan process is the identification by Dublin Port Company of the options available to increase efficiencies at the Port and to provide additional throughput capacity to cater for the projected growth in port tonnage over the period up to 2040.

This approach has been informed by expert studies carried out in preparing the Issues Paper published in March 2011. These detailed studies examined future projections in freight logistics, transport modes and developments likely to occur in certain trade and passenger categories. The Issues Paper also outlined some key criteria around environmental considerations, planning and land use elements and the engineering and technical contexts impacting on Dublin Port.

During the Masterplan Review initiated in 2017 these studies and criteria were tested in light of developments since the Masterplan was first introduced. This included taking account of changes in economic projections, progress with projects identified in the Masterplan, and developments in policies and strategies impacting on planning, transport and the environment.

Submissions and observations received through the Consultation process on the Masterplan in 2011 and the First Review of the Masterplan initiated in 2017 have also been taken into account in the design of the development options that may be undertaken to deliver the needs and capacity that have been identified. In particular, the design of the development options has been informed by the policy objective of Dublin Port Company to secure societal integration of the Port with the City and its people.

The infrastructure development options described in the Masterplan in February 2012 were reviewed in detail in the Masterplan Review 2017 Consultation Paper and have been revised based on:

- The outcome of the consultation and review process
- The perspective gained from developments completed or commenced during the first six years of the Masterplan from 2012 to 2017
- The revised increase in growth to 77m gross tonnes by 2040

- The Franchise Policy, 2014
- The acquisition of a 44 hectare site for the new Dublin Inland Port
- The inclusion of a Southern Port Access Route (SPAR) as a project to be completed in the timeframe of NTA's Transport Strategy for the Greater Dublin Area 2016-2035.
- The revised zonings for Dublin Port Company lands on the Poolbeg Peninsula in the Dublin City Development Plan 2016 – 2022
- The inclusion of port activities and transport infrastructure among land uses specified in the Poolbeg West SDZ
- Increased clarity on the protection of habitats under EU law arising

Against this background, a revised set of Masterplan infrastructure options (which include projects already underway such as the ABR Project) is shown in the following drawings:

- Figure 3 shows an annotated layout of lands in Dublin Port
- Figure 4 shows the location and extent of Dublin Inland Port
- Figure 5 shows the berths and channel in Dublin Port envisaged by 2040
- Figure 6 shows the internal road, cycle and pedestrian network which is under construction. This includes the four kilometre long Greenway on the northern fringe of Dublin Port overlooking the Tolka Estuary.

Figure 3: Annotated layout of lands at Dublin Port

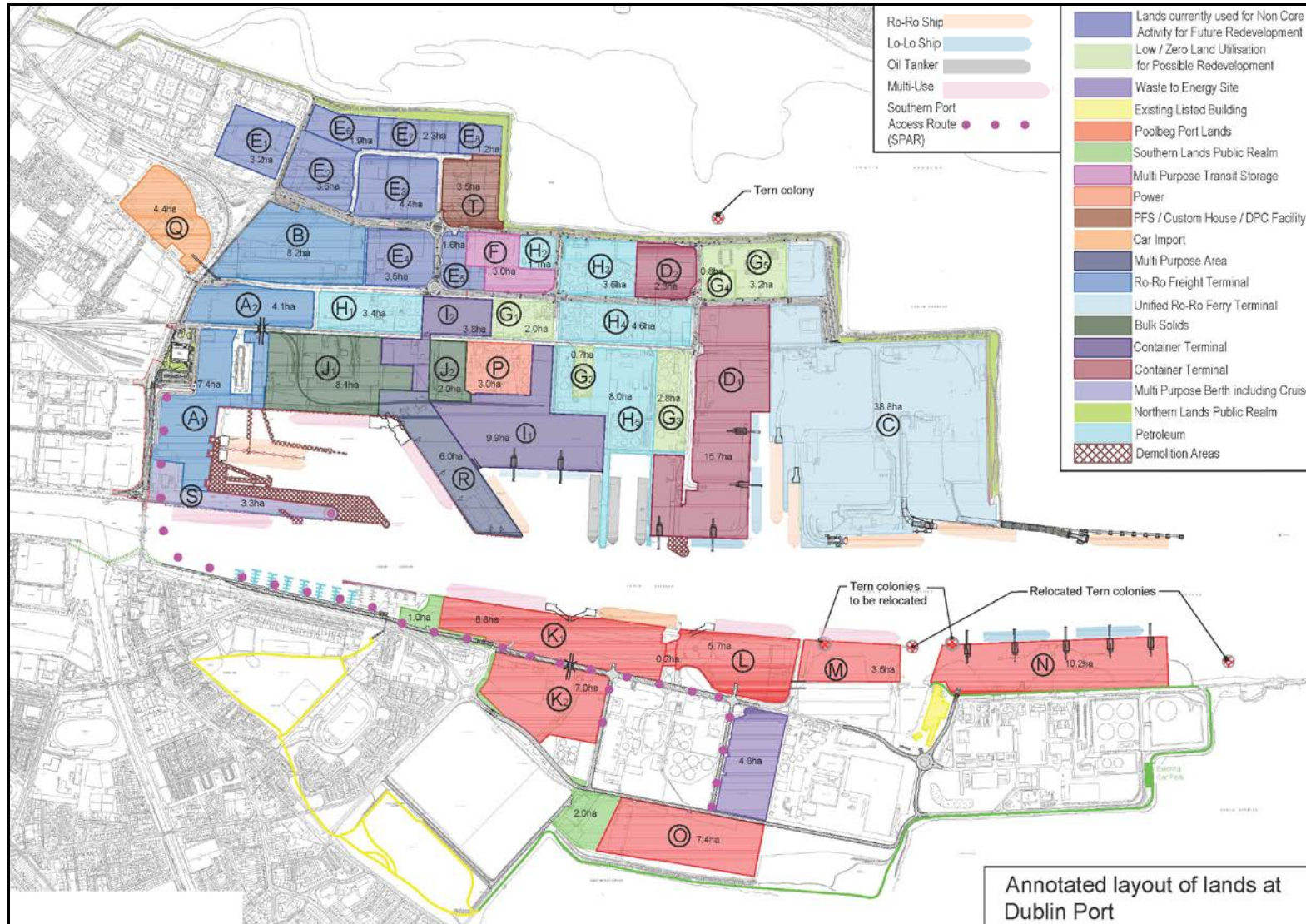


Figure 4: Location and extent of lands at Dublin Inland Port

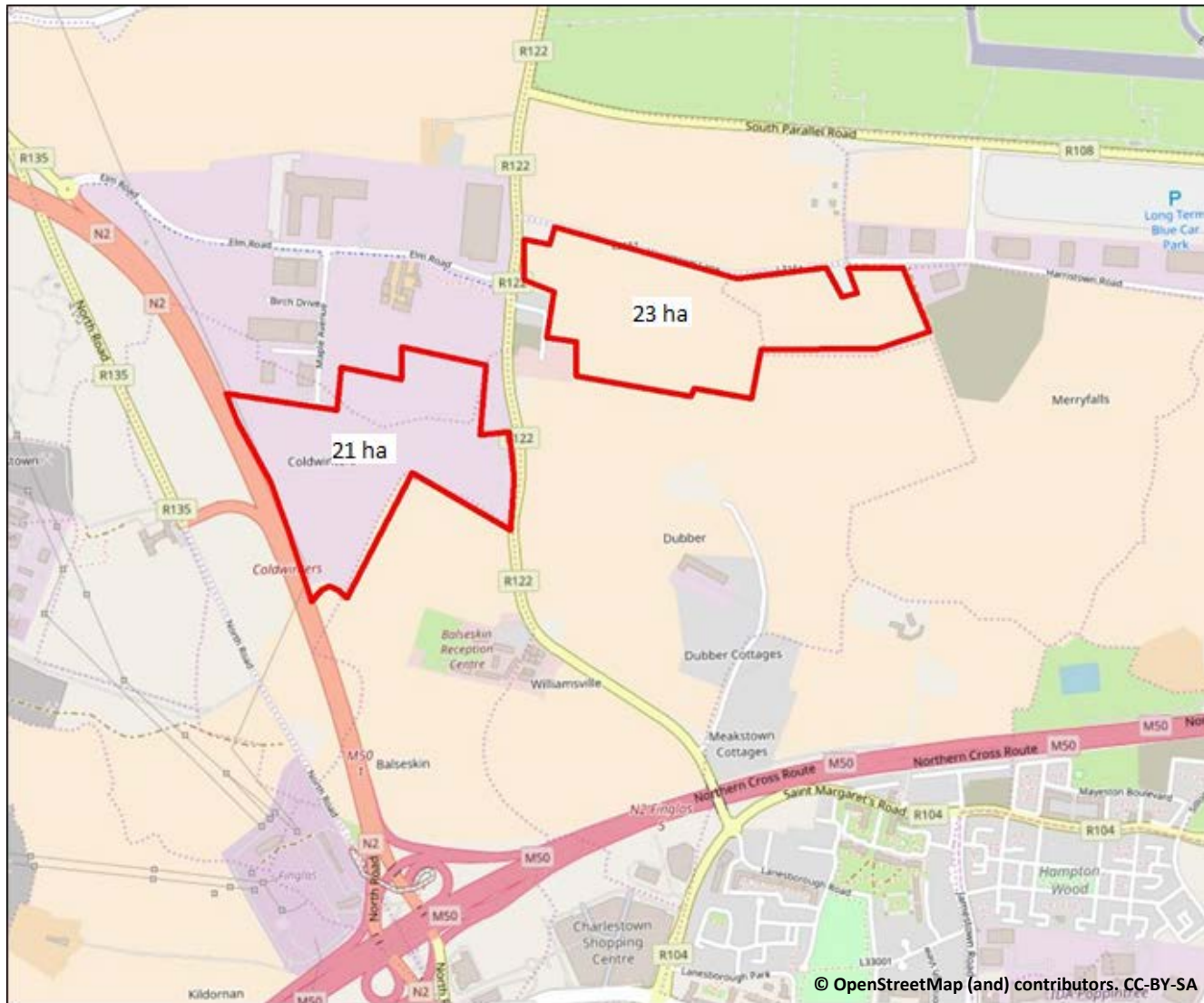


Figure 5: Indicative layout of channel and berths at Dublin Port by 2040

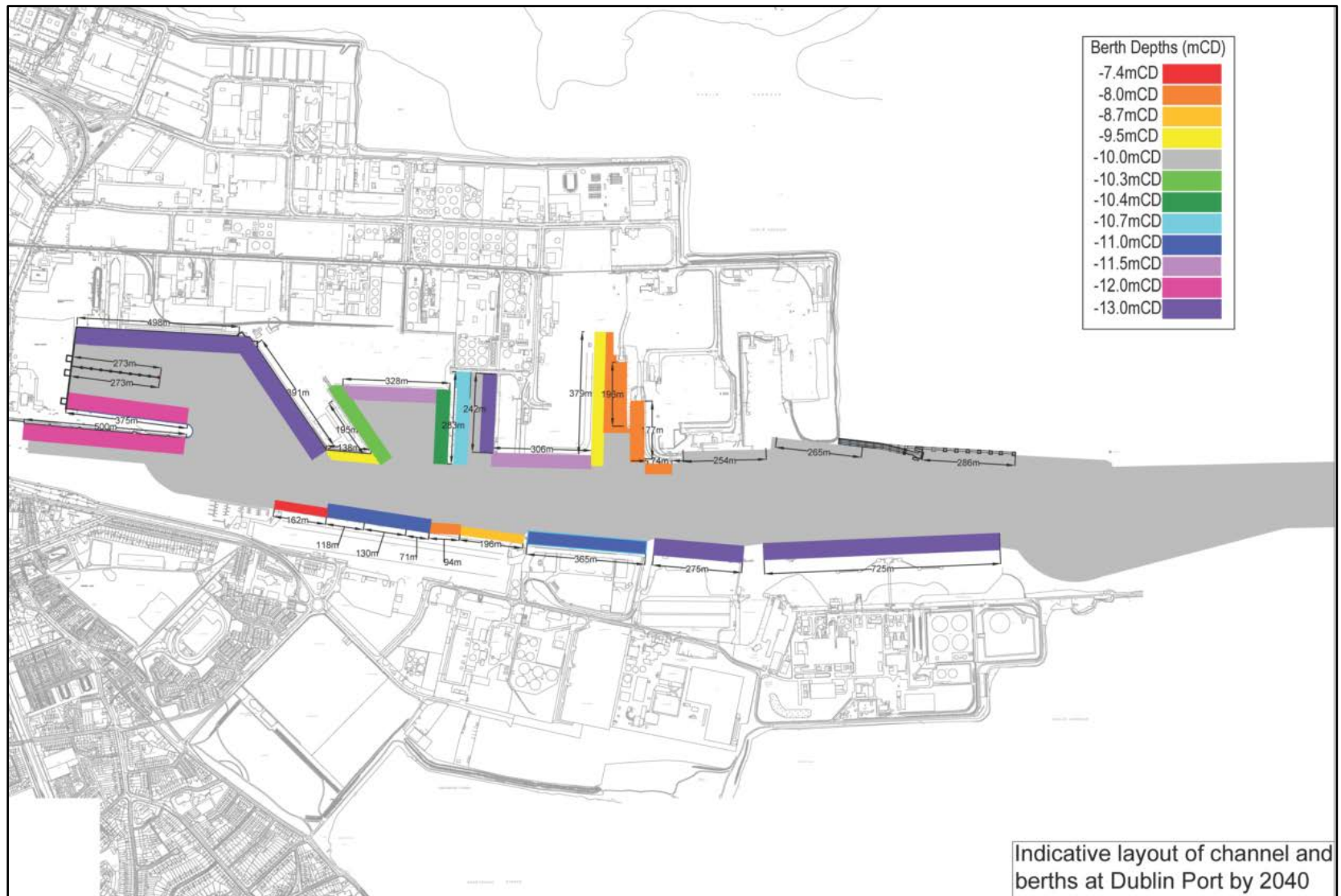
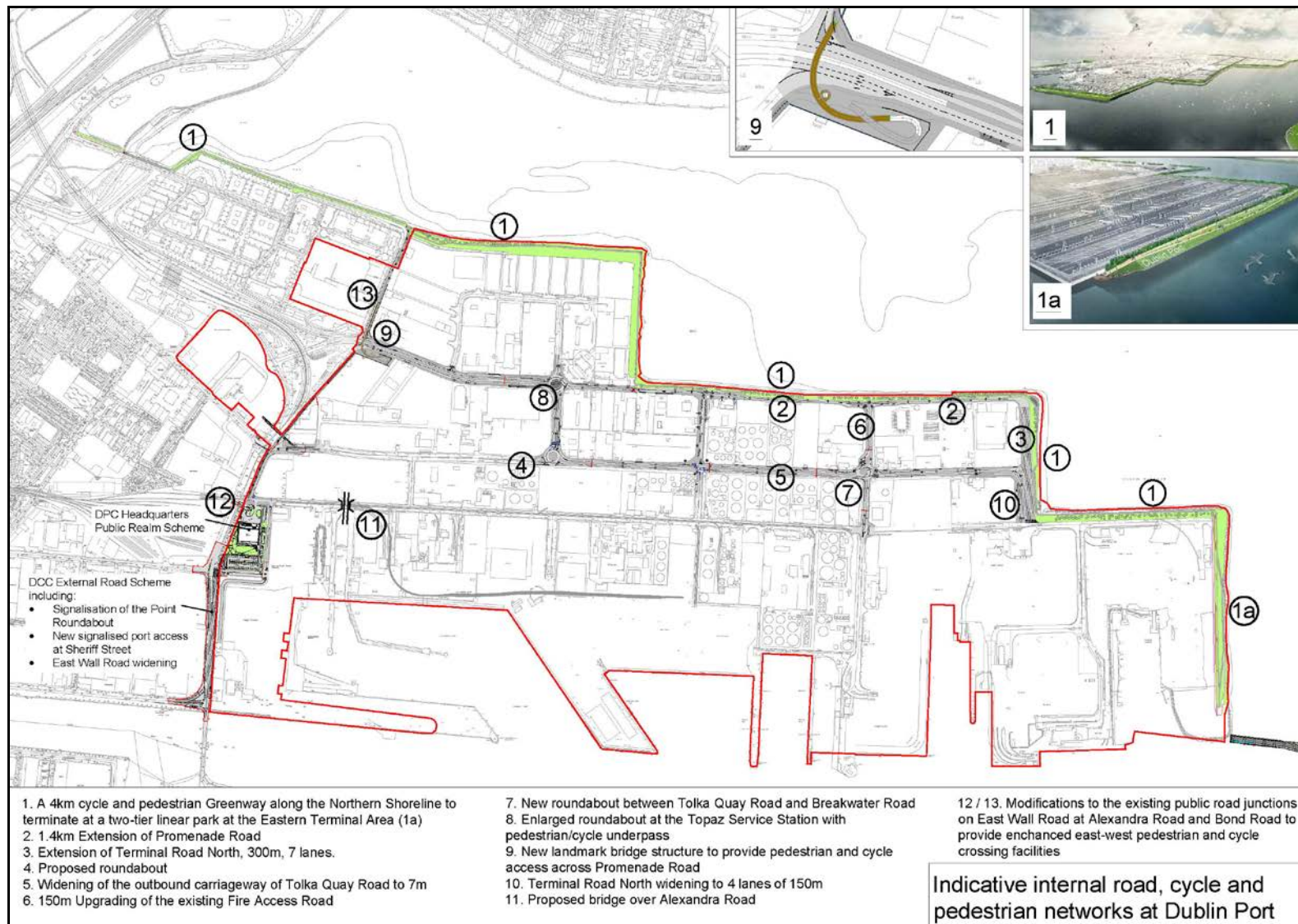


Figure 6: Indicative internal road, cycle and pedestrian networks at Dublin Port



It is important to stress that the options presented in Figure 3 and described below are **not** a prescriptive menu of developments that will be carried out in Dublin Port. Rather, they constitute a list of possible options that need to be evaluated at the appropriate time (by reference to such issues as demand and capacity) and subjected to the completion of the relevant business case, environmental assessments, planning and other consent requirements.

In this context, Dublin Port Company will consult with key stakeholders before specific projects are brought forward for development.

The provision of adequate and appropriate infrastructure including aspects such as road access, wastewater treatment, water supply, surface and storm water drainage and waste management will be provided to support the future development of any of the individual development options identified in the Masterplan.

A description of the development options covering sites with a total area of 218.5 hectares is shown in Figure 3 and described site by site in the table below.

Ref	Hectares	Infrastructure development options
A	11.5	This area is the redeveloped and expanded Terminal 4 which is being constructed as part of the ABR Project and which will provide capacity primarily for unaccompanied Ro-Ro freight on services between Dublin and Liverpool.
B	8.2	This block of land is planned to provide additional area for Terminal 4.
C	38.8	<p>It is proposed to create a Unified Ferry Terminal which would incorporate the existing Terminals 1, 2 and 5. In doing this:</p> <ul style="list-style-type: none"> • Existing internal roadways would be eliminated and existing buildings would be removed to create an additional three hectares of usable terminal area. • A new single set of in-gates would be provided north of the existing terminal areas accessed from the new Promenade Road Extension to be built as part of the project to redevelop the Port’s internal road network. • A new jetty would be built at the eastern end of the Port to provide a fifth Ro-Ro berth • A new ferry terminal building would be provided to the north overlooking the Tolka Estuary. • In developing the new Unified Ferry Terminal, necessary State facilities would be provided for border control across a range of headings.

Ref	Hectares	Infrastructure development options
D	18.5	<p>This option provides for a considerable expansion of the already existing container terminal both in terms of berthage and, more particularly, storage land for the transit storage of imported and exported containers from Lo-Lo container ships.</p> <p>The option includes:</p> <ul style="list-style-type: none"> • The removal of existing buildings on the terminal to provide additional transit storage capacity for containers • The cessation of an existing empty container depot operation • The infill of Oil Berth #4 • The reconstruction of Oil Berth #3 to facilitate its reuse as a container berth as when it is no longer required for petroleum imports • The extension of the existing river berth (Berth 50A) • The development of a nearby 2.8 hectare yard overlooking the Tolka Estuary as a back area for the transit storage of containers <p>Existing check-in facilities will be moved to a remote shared facility in Area E close to the Promenade Road entrance to the Port.</p>
E	21.7	<p>This area comprises seven separate blocks which will be redeveloped primarily for the transit storage of unitised cargo.</p>
F	3.0	<p>This area has been redeveloped since 2012 for the transit storage of unitised cargo.</p>
G	9.5	<p>There are five sites with zero or low utilisation for the transit storage of cargo:</p> <ul style="list-style-type: none"> • The three bitumen importation facilities have an aggregate land utilisation of about 6% of the target for lands used for Ro-Ro and Lo-Lo with no prospect of this significantly increasing in the future. • There is an LPG facility which has an even lower utilisation of only 3%. • Finally, there is a hazardous waste facility which could be located outside Dublin Port. <p>The large aggregate land area of these five sites is such that they warrant redevelopment for the transit storage of more intensive cargo, notably Ro-Ro and Lo-Lo, over the period of the Masterplan.</p>
H	20.7	<p>There are multiple sites in five areas on the north side of the Port used for the importation of petroleum products such as petrol, diesel and aviation fuel. These sites have developed over many decades and much of the tank and other infrastructure is old. The net result is that there is in the order of six hectares more land occupied by oil facilities than would be needed if the facilities could be redeveloped with the efficiency of land utilisation as a primary objective.</p> <p>Moreover, given the need to move energy consumption away from carbon emitting petroleum products, there is uncertainty about the scale of the petroleum importation business through Dublin Port in the long-term of the Masterplan.</p> <p>National policy to end the sale of non-zero emission vehicles by 2030 should lead to a reduction in the throughput of these sites over the period of the Masterplan.</p> <p>As opportunities arise, therefore, Dublin Port will seek, where possible, to reduce the land area occupied by petroleum importation facilities.</p>
I	13.7	<p>Infrastructure development of the existing container terminal (both Ro-Ro and Lo-Lo) will be largely completed by works which are part of the ABR Project.</p> <p>Existing check-in facilities will be moved to a remote shared facility in Area E close to the Promenade Road entrance to the Port.</p>

Ref	Hectares	Infrastructure development options
J	10.1	<p>The use of lands in this area for Bulk Solid cargoes will be kept under review.</p> <p>In general, the Bulk Solid commodities shipped through Dublin Port are ex-growth. Some specific commodities may, over the remaining period of the Masterplan, decline to zero.</p> <p>With the possible exception of imported biomass for power generation, DPC will not seek to replace declining bulk commodities with other bulk commodities and will instead look for opportunities to redevelop bulk facilities to provide additional land area for unitised trades (Ro-Ro and Lo-Lo).</p>
K	15.8	<p>The current use of these lands for a container terminal will be reviewed in the context of changed land uses on the Poolbeg Peninsula.</p> <p>However, the lands adjacent to South Bank Quay provide essential port capacity and must, therefore, be retained for port uses if the objectives of the Masterplan are to be achieved.</p> <p>It is envisaged that the existing terminal will be redeveloped as a Ro-Ro freight terminal and the existing Lo-Lo container terminal will be relocated.</p>
L	5.7	<p>The existing South Bank Quay supports a range of bulk commodities including: petroleum coke imports; cement and cement raw materials; and scrap metal exports. All are businesses with low growth potential and, in the case of petroleum coke, with a future life likely shorter than the duration of the Masterplan.</p> <p>Over the remaining period of the Masterplan, Dublin Port will consider any opportunities that may arise to redevelop these lands for more intensive cargo handling activities.</p>
M	3.5	<p>A new deepwater multi-purpose berth is proposed as an eastwards extension of the existing South Bank Quay.</p>
N	10.2	<p>If the existing MTL container terminal is redeveloped for Ro-Ro, then the Port will have a shortage of container terminal capacity for Lo-Lo.</p> <p>It is proposed, therefore, that a new deepwater Lo-Lo container terminal be developed by the creation of deepwater berths along the River Liffey in front of the ESB's Poolbeg Power Station. In doing this, provision will be made to provide for the power station's cooling water intake and outfall and also for NORA's petroleum loading and offloading requirements.</p>
O	7.4	<p>These lands will be redeveloped to support cargo handling activities at sites K, L, M and N. The primary planned use of these lands is to provide, in conjunction with Area N, sufficient land capacity for the throughput of the new 725 metre long container terminal quay wall in Area N.</p>
P	3.0	<p>It is unclear if ESB's North Wall Power Station will be required long term by ESB. If not, the site could be redeveloped to provide additional lands for the transit storage of cargo.</p>
Q	4.4	<p>This area has been redeveloped since 2012 as a dedicated facility for the transit storage of imported trade vehicles.</p>
R	6.0	<p>This area is being redeveloped as part of the ABR Project to provide multi-purpose facilities for unitised trade (both Ro-Ro and Lo-Lo), for other cargo modes (including bulk solid and project cargoes) and for other uses (including cruise ships and lay-by berths).</p>
S	3.3	<p>This area is being redeveloped as part of the ABR Project to provide multi-purpose facilities for cruise ships, trade vehicle imports, project cargoes and lay-by berths.</p>
T	3.5	<p>Dublin Port maintenance facility, New Customs House and fuel station (petrol diesel and CNG).</p>

The development of many of the sites shown in Figure 3 will require the relocation of port-related but non-core activities out of Dublin Port and to other locations (notably to Dublin Inland Port) in accordance with the Franchise Policy, 2014. Figure 4 shows the location and extent of Dublin Inland.

In addition to the land area of Dublin Port, marine side elements include the entrance channel, the berths and basins within the Port. Figure 5 shows the ultimate depths envisaged in Dublin Port by 2040. Importantly, the original view in the Masterplan in February 2012 that Dublin Port's entrance might ultimately be deepened to -12.0m CD has been changed and it is instead envisaged now that the channel will only be deepened to -10.0m CD in accordance with the consents secured as part of the ABR Project. This work has already commenced and is scheduled to be complete by 2023.

Finally, Figure 6 shows the layout of the Port's internal road, cycle and pedestrian network. Planning permission has been secured for the majority of the developments shown in Figure 6 and construction has commenced.

The Infrastructure Proposals and Zoning Objectives

The infrastructure proposals shown in Figure 3 are fully compatible with the land zoning objectives in the Dublin City Development Plan 2016-2022 and with land uses specified for the Poolbeg West SDZ Planning Scheme.

- Land use in the Port
- Intensification of uses
- Safeguarding land

6. SAFEGUARDING, PROPERTY AND BLIGHT

The Value of Port Lands

Dublin Port Company recognises that the Port Estate is an inherently valuable asset.

The true value of the land in Dublin Port lies in the activity that is carried out in the Port rather than in a simple assessment of the open market value of real estate. The contribution that Dublin Port makes to the national and regional economy and to the people of Ireland as a strategic piece of infrastructure gives the Port estate lands their real intrinsic value.

Dublin Port is a facilitator of international merchandise trade and forms a critical part of the economic infrastructure of the Greater Dublin Area, which is a huge generator of economic activity nationally. It is also a core port on Europe's TEN-T network and is a key node on the TEN-T North Sea – Mediterranean Core Network Corridor.

This imposes an obligation on Dublin Port Company to ensure that the Port Estate is managed in a way that maximises its value to the State and to key stakeholders. It is imperative that land is used efficiently and effectively and is not used for sub-optimal or non-port related purposes. This was explicitly recognised in the Franchise Policy, 2014 and is supported by land use and zoning policies incorporated in the Dublin City Development Plan 2016-2022 and in the Poolbeg West SDZ Planning Scheme.

Dublin Port Company must provide a competitive, efficient and dynamic environment for the conduct of trade in the Port. This is achieved through the development and operation of port activities in ways which make optimal use of the existing port estate and which facilitate and encourage intense competition within the Port among operators in different sectors. Dublin Port Company takes steps to ensure that the existing lands are used effectively and efficiently by the Port operators. In the context of future operations, it will be imperative that the Port can demonstrate that all options to optimise the throughput of trade from the existing port estate have been explored fully before projects to develop additional port capacity beyond the current footprint of Dublin Port are contemplated.

In the context of a Masterplan which looks to a 30 year horizon it is also important that the Company takes a longer term view of the use and strategic benefit of specific lands and does not relinquish land that may be required for port purposes in the future. It is equally important that the consequences of decisions taken in relation to the future use of land do not create blight on surrounding land and properties impeding development and renewal.

The Nature of Port Development

In examining the provision of capacity in Dublin Port to 2040 it is important to factor in a number of key considerations.

- Firstly, in order to be efficient, cargo handling space must be as close to the quay wall as possible. Otherwise delays and inefficiencies can arise in the movement of cargo between the quays and transit areas. This impacts on ship turnaround times and is a key consideration for port and ship efficiencies.
- Secondly, in examining the need for future capacity to 2040 a key requirement will be to secure new deepwater berths to facilitate larger ships which may emerge over this period in some modes. There are limited options for the development of such facilities in Dublin Port without some element of reclamation within the Port thereby increasing the Port's footprint in the inner port area. Furthermore, in developing new berths, there must be sufficient land available to ensure that the full capacity of new and costly quay walls can be utilised.
- Thirdly, providing new port capacity takes time. A significant port infrastructure development project can take up to ten years from project inception through to commissioning. Larger projects can take up to 20 years. This makes it imperative that the process of providing additional capacity adequately identifies the required needs in good time.
- Finally, the planning and consents process for securing approval for new port projects, particularly given the dynamic natural environment that exists in Dublin Port, introduces a level of uncertainty as to the outcome of particular projects. This risk can be mitigated to an extent in the application process but the uncertainty as to outcomes remains.

Collectively, these factors create an imperative for Dublin Port Company to ensure that the existing land in Dublin Port is used effectively, efficiently and is optimised. In particular, it requires a strong commitment to ensure that the scarce resource of port land is utilised to the greatest extent possible.

Intensification of Use of Lands

Dublin Port Company has adopted a number of different approaches to securing the effective use of port lands informed by the consideration of alternatives outlined earlier. While the Company is the freehold owner of most of the lands in the estate, it does not have full control over the use of these lands.

In particular, large parts of the estate are held by tenants and port operators under a range of franchise types (including long leases and licence agreements). Consequently, Dublin Port Company has focused on regaining land from franchise holders and endeavours to ensure that the remaining land held under lease or licence is used effectively and efficiently.

In seeking to acquire land, the Company has concentrated its efforts on freeing up considerable ground area that was occupied by old redundant warehouses and structures

and then improving the condition of the ground area itself to improve its load bearing capability. This has required considerable investment by Dublin Port Company and in the past ten years some €250 million has been spent on improving the facilities within the Port.

When the Masterplan was originally published in February 2012, Dublin Port Company's objective had been to designate all lands south of Tolka Quay Road for direct cargo operations as this was regarded as the limit within which direct unitised operations could be carried out efficiently. Dublin Port Company now believes that it must, where possible, utilise all lands in Dublin Port for the transit storage of cargo even if this requires cargo handling companies to move cargoes over greater distances to and from berths in the Port.

Dublin Port Company will remain committed to a programme of regaining control of port lands over the period of the Masterplan and may use its statutory powers of compulsory purchase to assist in this process, if necessary. The process of regaining control of lands is both costly and slow and, of itself, cannot be relied upon to yield up the amount and type of land required to deliver future capacity.

Where land remains with tenants or licensees, Dublin Port Company will seek to ensure that this land is used effectively and is not employed for suboptimal purposes. This will be achieved through the negotiation of changes in the franchise arrangements with operators to give Dublin Port Company the ability to influence the utilisation of existing lands and to eliminate discrepancies in competing operators' cost bases.

Throughout the Masterplan period, Dublin Port Company will use pricing incentives to encourage customers to achieve optimum land utilisation for core port trading purposes.

The Franchise Policy, 2014, has been developed and is being implemented to help achieve the above aims.

Safeguarding Property and Preventing Blight

The long-term planning of Dublin Port's estate requires consideration of two related issues:

- What unused Port lands need to be safeguarded by Dublin Port Company for development to provide capacity for foreseeable growth in volumes?
- Are there lands which are today surplus to Dublin Port Company's requirements, which have no foreseeable role in providing port capacity and which, therefore, should be disposed of or redeveloped for other purposes so as prevent their being blighted?

A central conclusion of the Masterplan Review is that **all** lands in Dublin Port are required for port and port related development. This conclusion is significantly influenced by Dublin Port Company eschewing in the Masterplan Review the option of increasing the footprint of the Port by further infill into Dublin Bay to meet projected requirements to 2040.

Based on the revised growth projections, the last of the development projects envisaged in the options shown in Figure 3 would need to be completed before 2040, probably no later than 2035. The time remaining to complete the last of these projects is within the established timescale in Ireland to bring large infrastructure projects from concept to completion.

- Transport
- Connectivity
- Permeability
- Travel Planning

7. TRANSPORT AND INLAND CONNECTIVITY

A Connected Port

The core objective of the Dublin Port Masterplan is to identify how the Port can handle 77 million gross tonnes by 2040 while achieving a reintegration of Dublin Port with Dublin City. In assessing how this can be achieved it is important to focus on the transport and travel issues concerning the operation of the Port – in particular how Dublin Port connects with inland transport networks outside the Port Estate.

It is also important to examine travel within the Port Estate to ensure that more sustainable modes of transport are facilitated and encouraged over the Masterplan period.

Research carried out for Dublin Port Company in 2011 during the preparation of the Masterplan confirmed that the majority of freight movements at Dublin Port originate or are destined for customers within the Greater Dublin Area, encompassing Dublin City and County, and Counties Meath, Louth, Kildare and Wicklow. The research also indicates that a significant amount of trade originates or is destined for locations outside the Greater Dublin Area emphasising Dublin Port's national role.

Inland Connectivity

Road

Dublin Port is well connected to the national road network and, in particular, the Dublin Port Tunnel, which was opened in 2006, has provided fast and direct access to the strategically important M50 and M1 routes within minutes of leaving the Port. The Dublin Port Tunnel has a typical flow of 26,700 vehicles on a weekday (November 2017), inclusive of port-related traffic. The tunnel has assisted in removing congestion both within the Port estate and in the environs of the Port.

Since the Masterplan was published in February 2012, the NTA's Transport Strategy for the Greater Dublin Area 2016-2035 has highlighted the imperative that the capacity of these routes be safeguarded for strategic trips of high economic value, particularly for the movement of goods.

Dublin Port Company has invested significantly in improving the road network within the Port to facilitate the efficient movement of goods to and from the various terminals and

facilities in the Port. These improvements have been delivered to ensure that the investment in the Dublin Port Tunnel and the expansion of the capacity of the M50 are adequately utilised by freight traffic to and from the Port. In addition to reducing congestion within the Port and reducing the impact of HGV traffic on the City Centre, the strategic investment in both the Dublin Port Tunnel and the upgrading of the M50 have assisted in reducing the times involved in moving goods to and from the Port.

The infrastructure options originally identified in the Masterplan included a possible new north-south Port interconnector bridge. Since then, the National Transport Authority has included proposals in its Transport Strategy for the Greater Dublin Area 2016-2035 to improve connectivity between Dublin Port Tunnel and the South Port area by the building of the Southern Port Access Route (SPAR). This opens up the possibility of significant additional port capacity on Dublin Port's brownfield sites in Poolbeg Peninsula.

Rail

Dublin Port is at the heart of the national rail network with direct connections to all major centres of population. Dublin Port Company has maintained and developed the main rail infrastructure within the Port and is committed to the provision of rail connections and sidings within the Port. The level of freight that is transported by rail remains comparatively low but Dublin Port Company believes that there is potential for rail freight to grow over the period of the Masterplan. This has already been evident in the growth in rail freight services in the period between 2012 and 2017.

Transport Policy & the Masterplan

In developing the Masterplan, Dublin Port Company has taken account of a number of policy developments which will guide and influence how transport infrastructure is provided within the Port and for onward connectivity.

The EU Transport 2050 Strategy sets a clear policy context and challenges for Dublin Port. The Strategy seeks a reduction of 60% in Greenhouse Gases from the transport sector by 2050 (based on 1990 levels).

To pursue this objective the Strategy sets some specific goals including:

- Reducing CO₂ emissions from maritime bunker fuels by 2050.
- Moving 30% of road freight travelling in excess of 300km to other modes including rail and waterborne travel.
- Ensuring all core seaports are connected to the rail freight and inland waterway system by 2050.

The Irish Government's Smarter Travel policy sets out a vision for sustainability in transport centred around five key goals:

- Reducing travel demand
- Maximising the efficiency of the transport network
- Reducing reliance on fossil fuels
- Reducing transport emissions
- Improving accessibility to transport

The Transport Strategy for the Greater Dublin Area 2016 – 2035 deals specifically with land transport and identifies infrastructure proposals across the range of modes including rail (heavy and light), bus, cycling, walking and road. The strategy also addresses the needs of freight and includes initiatives to improve modal split and the allocation of capacity using demand side measures.

These policies and strategies have guided Dublin Port Company in the preparation and review of the Masterplan and will inform the transport elements of specific projects to be implemented during the Masterplan period.

In particular in light of the provisions of the policy objectives at EU and national level there is an onus on Dublin Port when bringing forward developments or initiatives during the Masterplan period to seek to:

- Implement initiatives which support pedestrians and cyclists within and in the vicinity of the Port both for recreational and for access purposes.
- Support better public transport links within the Port.
- Where achievable, to facilitate initiatives throughout the supply chain which these policies seek to implement.

Dublin Port Company has incorporated these objectives in the redesign of the Port's internal road, cycle and pedestrian network shown in Figure 6.

Dublin Port Travel Plan

The commencement of the project to redevelop the Port's internal road, cycle and pedestrian network as shown in Figure 6 makes possible the development of a new comprehensive Travel Plan for Dublin Port with an emphasis on safe access throughout the Port Estate for cyclists and pedestrians and efficient links with local public transport networks.

A new Travel Plan will be developed based on the possibilities offered by the following initiatives:

- Provision of cycle lockers at Port Centre (as part of the *Opening Up Port Centre* project) to facilitate workers in the Port to use public transport.
- Development of an innovative and environmentally friendly (e.g. electric or hydrogen fuelled) bus operation to service the Port estate, including passenger ferry terminals, and to link the Port to Dublin City's public transport networks.
- Development of a partnership with Dublin City Council and the Irish Nautical Trust to

- re-establish a Liffey ferry service using Ferry Number 11 (the last remaining ferry).
- Closing of port access along East Wall Road and the opening of a new access at Sherriff Street to service Port Centre and the river berths where cruise ships will berth.
- Co-ordination with Dublin City Council to complete the Point Roundabout Scheme to improve the public road network at the junction between the Tom Clarke Bridge, East Wall Road and North Wall Quay.
- Co-ordination with NTA and DCC to complete the project to develop the road link connecting from the southern end of the Dublin Port Tunnel to the South Port area to serve the South Port and adjoining development areas.

Supply Chain Initiatives

There are some specific supply chain initiatives that Dublin Port Company will pursue during the period covered by the Masterplan and which will aim to facilitate the achievement of the sustainable transport objectives set out in both EU and national Policies.

Rail

Dublin Port Company will continue to promote the use of rail freight through the movement of containers and bulk solids by rail. A sign of this commitment is the development of the 1.6km rail spur at Dublin Port which was opened in July 2011. Dublin Port Company continues to examine the potential for private sector operators to offer container freight services to a range of destinations.

In the period since 2012, there has been increased use of rail freight in Dublin Port with longer container freight trains introduced on routes following trials in 2016.

The Company believes that if market demand develops to the full set of potential services, the annual volume of containerised freight moved by rail could reach 1.3m tonnes or 130,000 TEU. There is also potential for increased movement of bulk solids and petroleum products by rail subject to market demand.

Portcentric Logistics

Portcentric logistics are a feature of many ports and can improve the logistics of shipping containers. However, based on experience to date, Dublin Port Company believes that the proportion of port volume that can be handled through portcentric facilities is small, particularly for unitised loads. Moreover, portcentric logistics for unitised cargo occupies valuable port land for which there is a greater demand to provide transit storage capacity for containers and trailers.

Dublin Port Company's view now is that all land in Dublin Port currently used for warehousing or transshipment of unitised loads would be better used for transit storage.

Outside of the unitised modes, portcentric logistics facilities for bulk solid and petroleum commodities will remain a key element during the period of the Masterplan.

The change in the port's view towards portcentric logistics facilities arising from the Masterplan Review is directly driven by the need to maximise the capacity of port lands without the requirement to expand the footprint of the Port by further infill into Dublin Bay to meet projected volumes in 2040.

Dublin Inland Port

Dublin Port Company has acquired 44 hectares of lands 14km from Dublin Port to provide facilities for non-core but port related activities. The lands are located within the administrative area of Fingal County Council and are explicitly zoned to include the activities envisaged by Dublin Port Company, including a road transport depot and for transport logistics.

Dublin Port Company believes that developments at Dublin Inland Port and at other locations close to the M50 can better meet the requirements for port-related but non-core activities including logistics services.

- Economic impact of the Port
- Integrating the Port with Dublin City
- Soft Values of Dublin Port
- Producing Community Gain

8. SOCIAL, COMMUNITY AND ECONOMIC IMPACTS

National Economic Impact of Dublin Port

Dublin Port is a key facilitator of merchandise trade into and out of Ireland and has a critical impact on the national and regional economies. The port is also a key component of the national tourism sector and represents a key gateway for visitors to Ireland.

In 2010, 43.6% of imports through Irish seaports came through Dublin Port, while 46.2% of exports from Ireland originated from Dublin Port.

By 2016 the percentage of imports arriving through Dublin Port was 45.0% while 51.1% of exports came from Dublin Port. The Port handles more than four fifths of containerised trade to and from Ireland.

The strategic importance of Dublin Port has been recognised at a national level in a number of policy statements and studies in recent years:

- National Ports Policy (2013) recognises Dublin Port as a Tier 1 Port
- The Competition and Consumer Protection Commission (2013) recognised that Dublin Port has the scale and critical mass to justify investment in the supporting infrastructure for unitised trade and generates more operating profit than all the other ports in the State combined.
- The National Transport Authority's Transport Strategy for the Greater Dublin Area 2016-2035 emphasised that safeguarding landside access to Dublin port as a national gateway should be considered as a priority strategic objective for all of the relevant agencies.
- At a European level, Dublin Port is one of 83 core ports on the TEN-T network and is also a key node of the North Sea – Mediterranean Core Network Corridor established in 2013 and financially supported by the Connecting Europe Facility (CEF)

In terms of Planning Policy the critical role and national and regional impact of Dublin Port is recognised in key strategies and policy documents including:

- The National Planning Framework
- The Dublin City Development Plan 2016-2022
- Dublin Docklands Area Masterplan 2008
- Poolbeg West SDZ Planning Scheme

Dublin Port and the Local Environs

Dublin Port is also a significant focal point for employment in Dublin both directly in the Port estate and on a regional basis as a consequence of trading activity carried on at the Port.

The Port is located at the eastern edge of Dublin City and is adjacent to the Dublin Docklands and to large long-established communities in Ringsend and Irishtown to the south and in East Wall and Clontarf to the north.

The employment generated at Dublin Port makes an important contribution to the regional economy. The development of additional facilities at Dublin Port over the period of the Masterplan will bring new opportunities for employment creation in both the construction and operation of the facilities. Aside from the benefit associated with the generation of new employment, the benefits for the state in terms of income tax and PRSI receipts would also be significant. For example, a socio-economic analysis of the ABR Project estimated that its construction phase would create 598 man-years of employment and generate gross wages of €22.8m plus exchequer tax receipts of €5.7m. Beyond this, EU Commission analysis suggests that every additional million tonnes of port throughput creates 300 new jobs.

While any new development proposals at Dublin Port would require a specific economic assessment, the scale of the employment gain in the event of large scale development proposals and enhancements at Dublin Port can be expected to be significant. It is expected that while modern technological innovations and developments in freight logistics will increase efficiencies, there will be a significant net employment gain from the development of new projects envisaged in this Masterplan.

Dublin Port and Dublin City

It is a key objective of the Masterplan and a policy imperative for Dublin Port Company that the development and operation of the Port must benefit the City and people of Dublin.

The primary function of the Port is to serve the merchandise trade of the Dublin region and the national economy. The Port is a busy centre for trading activity and at different times of the day can be teeming with trucks, people and ferries. Maintaining a busy and secure port need not preclude the implementation of initiatives which are aimed at securing greater integration of the Port with the City. International experience has shown that a busy, connected and integrated port should be achievable with vision, clarity and a commitment on the part of port operators and the city authorities.

Integrating Dublin Port with Dublin City and its people is a core objective of the Masterplan for Dublin Port. A port which serves the City but which remains detached and isolated from the society that it serves will be regarded as little more than an intrusive and unappealing blight on the City. This integration must be both meaningful and enduring with a real recognition of the

interdependence that exists between the Port, the City and its people.

Over the period of the Masterplan, Dublin Port Company will pursue a deliberate policy objective to secure societal integration of the Port with the City and its people. This programme is informed by the European Sea Port Organisation's (ESPO) *Code of Practice on Societal Integration of Ports*, 2010. The statement of these policy objectives and their achievement through a focused programme and high level Board commitment represents a cultural shift on the part of the Company to ensure that the commercial function of Dublin Port is matched with a recognition of the soft values that attach to the Port and the responsibilities that they confer in the relationship between the Port, the City and its people.

In particular, it is a policy objective of Dublin Port Company to ensure that the Port will not operate in isolation from Dublin City and the people that it services.

This will involve ensuring that the people of Dublin benefit not just from the Port operating as an efficient facilitator of trade, but also that the City and the people of Dublin gain in many wider senses from the successful operation and growth of the Port.

This policy objective will underpin both how Dublin Port Company operates its current business and any development proposals envisaged under the Masterplan. To support the achievement of this objective, a programme has been devised and is being implemented, in consultation with the local authority, statutory stakeholders and local communities, to identify and implement initiatives to support societal integration between the Port and the City and the achievement of soft values associated with the Port.

To give practical vent to these policy objectives, Dublin Port Company has developed initiatives and programmes which will be undertaken over the course of the Masterplan to achieve integration between the Port and the City. Some of the initiatives will occur in the short term and represent tangible evidence of the commitment of Dublin Port Company to societal integration. Other initiatives will take place aligned to specific projects or proposals as they come to fruition. Collectively they demonstrate a strategic vision with tangible outcomes which will effectively bring the Port closer to the City and its people. Full details of the measures that have been achieved since 2012 to secure integration between the City and Dublin Port are set out in the Masterplan Review 2017 Consultation Paper. These include the creation of new attractions in the Public Realm such as the Diving Bell, programmes in arts and music, the Riverfest event, the continuation of the CSR programme and projects to improve the boundary between the Port and perimeter areas.

Dublin - A Port City

Dublin is a historic port city. The development of the city over the last 300 years has been closely aligned to the growth and expansion of merchandise trade, with vessels handling cargo right into the heart of the city until relatively recently. In essence Dublin Port is a working

monument which first operated close to Parliament Street in the City Centre, but has moved downstream leaving distinct architectural features, such as the Ballast House and the Customs House which helped to define Dublin City.

The development in containerised trade together with the growth of Ro-Ro freight saw a movement in port operations away from the core of the city out towards the current location of Dublin Port at the eastern fringes of the urban area and at the mouth of Dublin Bay. These developments, together with the built transport infrastructure, city centre traffic planning and the requirements introduced for the security of ports and ships have all contributed to the operation of Dublin Port as a zone that is separate and distinct from Dublin City.

The Port, which has played such an important role in the location, growth and development of the City, has become physically detached from the City over time. Yet given the role that the Port plays in the lives of Dubliners, it remains central to the City and its people.

While Dublin Port is now located away from the centre of Dublin City, the Port has been and remains a central part of the structure, culture and heritage of Dublin and its people. The evolution and development of the City of Dublin is inextricably linked with the operations and growth of Dublin Port. Dublin City developed around the River Liffey, which today remains the central channel to Dublin Port.

Dublin Port is intrinsically linked with the fortunes of the people in the city. It has been a point of arrival and departure for generations of people visiting Ireland not just Dubliners. People have left from Dublin Port both in its current location and when passenger ships departed from the city quays, to find new lives in other countries and traditions. Equally they have returned to visit family and renew connections in Ireland. The Port has also been the first point of arrival for many new entrants into Ireland who have expanded the ethnic mix and complexion of Dublin.

While there has been a growth in air passenger traffic in the last 30 years, the levels of passenger throughput in Dublin Port remain high. In 2011, there were over 1.7m passengers on ferries and a further 135,000 visitors on cruise ships. By 2017 ferry passenger numbers had risen to 1.8m and cruise ship visitors to 210,000 people.

The Port is also central to commerce, life and the living standards of people living in the Dublin region. Food that is consumed on the tables of Dublin households, or clothes worn or equipment used by Dubliners, including cars, fridges, and even toothbrushes, all arrive through Dublin Port.

It is an entrance point for people, goods and materials for the City. It also serves as the export point for many goods manufactured in Dublin and beyond.

Dublin Port - A Positive Contribution to the Natural History of Dublin

The growth of Dublin Port has helped to shape the city and it has created not just a centre for people, trade and commerce, but also amenities which are used on a daily basis by people living and visiting the Port.

The construction of the North Bull Wall and the Great South Wall led to the creation of two amenities that help to define the city and provide an important resource for its people. Bull Island, which was created directly as a consequence of marine works needed to ensure the safe operation of Dublin Port, is now an amenity that is enjoyed by thousands of Dubliners. It has become an internationally recognised habitat for wildlife, a place of recreation for Dubliners and contains one of Dublin's finest beaches. In addition, the Great South Wall, which was built to preserve the channel into Dublin Port, has also made a significant contribution to the city and is a much valued amenity and vantage point for looking at the City and the operations of its vibrant port.

It is a central part of the approach by Dublin Port Company to the maintenance, operation and development of Dublin Port over the period of the Masterplan to maintain and enhance these two natural amenities which have been created directly as a consequence of the development of the Port.

Dublin Port remains a centre for nature, heritage and conservation. The Port is adjacent to areas of high conservation value and amenity and has facilitated the creation of habitats which are important, not just in an Irish sense but across Europe. In addition, some of the structures developed in the Port have provided refuge and breeding grounds for protected species. A vibrant and successful port in Dublin has co-existed beneficially with a dynamic, developing and scarce natural habitat. It is the intention of Dublin Port Company to maintain Dublin Port as a centre for commerce within a centre for nature. This approach has been underpinned by the creation in 2015 of the Dublin Bay Biosphere as a partnership between Dublin Port Company, three local authorities (Dublin City Council, Fingal County and Dun Laoghaire Rathdown) and the NPWS and, latterly, Fáilte Ireland.

Dublin Port and an Innovative Ireland

With a background rooted in history and focused on mercantile trade it is important to remember that Dublin Port is a conduit for innovation and new ideas – the Port is a gateway for innovation and creativity.

Many of the products and raw materials that form part of Ireland's knowledge economy enter the country through the Port. The Port is also a receptor for new and imaginative infrastructural elements which impact on the citizens of Dublin on a daily basis:

- The Samuel Beckett Bridge was brought in through Dublin Port
- Major structural components of the National Convention Centre arrived in Dublin through Dublin Port

- The Aviva stadium was built using materials imported through Dublin Port
- New DART carriages, LUAS carriages, locomotives, buses and wind farms regularly arrive in Ireland through Dublin Port
- Large server modules for data centres

This gateway to innovation and “new things” is an aspect to the Port’s operations which receives little focus, but is of key importance in terms of creating a city which retains that innovative streak and inventive spirit which underpinned much of the economic, cultural and individual successes through the years.

Integrating Dublin Port with the City

The challenge of integrating the Port with the City is not unique to Dublin. ESPO’s *Trends in EU Port Governance 2016* highlights that 91% of European ports are urban ports.

Integration of the Port with the city involves examining ways in which Dublin Port in its current location can encourage a greater throughput of people while maintaining its core function.

The improvement in transport links with the construction of the LUAS line to the 3 Arena has made the Port area more accessible. Recent developments on the North Lotts area will help to bridge the gap between the City and the Port.

On the south side of the Port, activities are confined to the Poolbeg Peninsula, part of which now falls within the Poolbeg West SDZ. Dublin Port Company has ownership of part of the peninsula with other large areas owned by Dublin City Council, ESB, Irish Water and Covanta and the former Irish Glass Bottle site effectively controlled by NAMA. Dublin Port Company will work with such statutory agencies and local stakeholders in the roll out of new port facilities on the Poolbeg Peninsula.

There are significant opportunities within the Poolbeg Peninsula to enhance public access and amenities in the context of new port developments.

The city quays between the Port and the Matt Talbot Bridge continue to be used by the Port to provide berthing facilities for visiting vessels. Currently the vessels using these quays are limited in size and there is no commercial freight handling on these quays. However, the vacant quaysides present an opportunity for increased usage for suitable vessels and as such have an important role in creating a greater linkage between the City and the Port.

A key element of the integration of the Port with the City is to ensure that Port operations take due account of the interests of adjoining communities. In particular Dublin Port Company will monitor and address the impact that the Port has on residential amenity on properties directly adjacent to the Port. Where required and practicable, environmental assessments and mitigation measures required to abate noise or visual impacts will be introduced, in co-operation with residents and Port users, to ensure that concerns raised by

communities are addressed in a spirit of co-operation.

Effective Community Engagement

Dublin Port Company has an extensive programme of engagement with local communities with initiatives including:

- *Soft Values Strategic Framework* approved by DPC Board, September 2012.
- Completion of the Diving Bell project on Sir John Rogerson's Quay to create a new and significant industrial heritage attraction in the City's public realm.
- Support for the Dublin Ships art installation on the Scherzer Bridge on North Wall Quay, January to December 2015.
- Continuation of the company's long established CSR programme to support local communities in the three areas of education, sport and community events.
- *Starboard Home* music commissioning and concerts in the National Concert Hall as part of the Ireland 2016 centenary programme.
- Development of Riverfest as an annual event on the river over the June Bank Holiday weekend to attract large numbers of people towards the Port:

2013 - 36,000

2014 - 58,000

2015 - 45,000

2016 - 96,000

2017 – 100,000

- Support for Dublin City Council's Tall Ships Regatta, 2018
- Commencement of projects to improve the boundary between Dublin Port and the City, notably the *Opening Up Port Centre* project along East Wall Road and the commencement of the project to create a pedestrian and cycle greenway on the northern perimeter of the Port overlooking the Tolka Estuary.
- The *Port Perspectives* visual arts programme

These initiatives provide an excellent foundation for a wider programme aimed at integrating the Port and the City as it focuses on building enduring and sustainable relationships between the Port and the local communities who directly interface with the Port each day.

A Focused Approach to Engagement and Integration

In the context of implementing the Masterplan, Dublin Port Company is proposing a series of initiatives to secure integration of the Port with the City and the people and in the process deliver a significant gain to the communities that Dublin Port interacts with.

The programme has eleven elements as follows:

Access

Dublin Port Company recognises that the function and operations of Dublin Port, particularly in the context of the security requirements imposed by international standards, means that there can never be unrestricted public access across all areas of the Port estate. However, within these constraints Dublin Port also recognises that there is significant potential to facilitate wider public access to the Port as an additional amenity and also to improve understanding of the operations of the Port and view Dublin City from a new perspective.

To increase this public access there is a number of different initiatives that Dublin Port Company is considering / developing:

- Cycleways and walkways – It is possible, even in the context of operating a busy international trading port, to facilitate access for pedestrians and cyclists in the Port through the improvement of cycleways and footpaths within and throughout the Port. This includes the creation of a pedestrian and cycle greenway on the northern perimeter of the Port overlooking the Tolka Estuary. On the Poolbeg Peninsula, Dublin Port Company is examining the opening of access to the Great South Wall eastwards from Pigeon House Harbour.
- Tourism visits – Dublin Port Company continues to facilitate access to tours and groups that wish to see the Port both from the land side and the water side.
- Public Transport – It is the objective of Dublin Port Company to ensure that the north port estate secures public transport provision to the passenger ferry terminals. This public transport provision could be through either the provision of a dedicated bus route or the extension of the existing bus route to link with the LUAS terminal at the 3 Arena. It would also be the objective to increase public transport links through the Poolbeg Peninsula down to the Great South Wall.
- Car Access – The Company will examine proposals to provide for car parking at an appropriate area in the Port for people who wish to come and see the Port at weekends.
- Educational Tours – Dublin Port Company will examine the possibility of increasing the number of organised educational tours of the Port for schools.
- Development of a Visitor Centre – The Company will examine proposals for the development of a Visitor Centre for the Port that could include displays of archive materials, old equipment used in the Port, video displays of port operations and interactive features such as container crane operations or the safe manoeuvring of a vessel into the Port.

- Bull Island – as part of the ABR Project, Dublin Port Company provided a significant community gain initiative related to Bull Island. This involved Dublin Port Company transferring a sizeable land holding on Bull Island to Dublin City Council and providing substantial funding over a 10 year period to support improvement projects on the Island.

Visual Integration

At present, the Port estate, when viewed from both the north and the south sides and along its eastern perimeter, can appear quite severe and unwelcoming. Dublin Port Company is committed to continuing to implement boundary softening measures to break down the physical barrier which exists between the Port and the immediate area outside the Port estate, particularly along East Wall Road. Construction of the *Opening Up Port Centre* project commenced in 2016 and the project was completed in 2017. It provides public access to a new maritime garden in the Port, with a softened boundary from Alexandra Road to Sheriff Street and additional landscaping works. . In addition, the fencing surrounding port installations on the south side will be reviewed to see how a functional but more appealing boundary can be erected.

Landscaping

It is also the intention of Dublin Port Company to continue to enhance landscaping on the northern fringe of the Port to ensure that the visual impact of the Port (in particular the oil tank farms) is less intrusive from the vantage point of Clontarf, Raheny and Sutton.

Information

The extent of the vehicle, passenger and vessel movements through Dublin Port is impressive. However, there is little public awareness of ship movements in and out of the Port. Dublin Port Company is committed to increasing information on vessel movements at Dublin Port particularly through increased use of social media.

Vantage points

In addition to providing information on vessel movements, it is also important that people have access to see the Port and its facilities. Dublin Port Company is committed to enhancing and improving access to the vantage points at the Great South Wall and on the North Bull Island for viewing port facilities and activities. More immediately, the project illustrated in Figure 6 to improve the Port's internal road, cycle and pedestrian network (which has commenced) will provide viewing areas along the northern fringe of the Port overlooking the Tolka Estuary.

Website, social media and new technology

Dublin Port Company has commenced a programme to redevelop its website and, in doing this, to provide access to a blog site and to an archive site. Social media is now being actively used through a range of platforms.

Dublin Port Company will examine the development of smartphone applications that can provide details on vessels that are visiting Dublin Port with an indication of their origin and destination and provide tidal information.

Visibility of the city and the port

Because the Port has moved eastwards from the city centre it is not visible to citizens of the city as they go about their daily business. However, there are a number of steps that can be taken to create greater linkages between the City and the Port, including:

- Moving cruise ship operations closer to the City. The ABR Project, which is a key part of the development proposals set out when the Masterplan was produced in 2012 provides for the creation of berths for large cruise vessels at a new location adjacent to the 3Arena. This new location will allow cruise vessels to come right up to the Tom Clarke Bridge and will provide access for visiting passengers and crew to the city via the Luas. It will also provide a greater visible presence of the Port at the heart of the city and introduce a new dynamic perspective on the Port's operation for the people of the city.
- City quays – Dublin Port Company continues to facilitate the berthage of suitable vessels along the City quays (North Wall Quay and Sir John Rogerson's Quay), again to facilitate the linkage between the city centre and the Port area, but mindful of the increasing residential character of part of this area. The use of the quay side for visiting vessels is a timely reminder of the links between the Port and the City and reinforces the permanent connection represented by the Diving Bell on Sir John Rogerson's Quay.
- Pigeon House Harbour – Dublin Port Company envisages that major projects on the Poolbeg Peninsula will be accompanied by significant Community Gain initiatives aimed at making the Port more permeable at a number of locations including at the western end of South Bank Quay and at the Pigeon House Harbour.

Cultural and Artistic

As part of a process to integrate the Port with the City and its people, a programme of cultural and artistic initiatives has commenced since the Masterplan was published in February 2012 and will continue into the future:

- Art and Installations – In the first instance, the Port will be viewed as a location for the display of art and installations (such as the *Dublin Ships* art installation on the Scherzer Bridge on North Wall Quay) on the Port estate, on the Port boundary and in surrounding areas. Dublin Port Company has also committed to visual arts projects through the *Port Perspectives* initiative.
- Festivals – Dublin Port Company will seek to expand the annual Riverfest to create a larger waterways and Docklands festival in conjunction with Dublin City Council, Waterways Ireland and Bord Fáilte.
- New Cultural opportunities – Dublin Port Company will explore ways in which the unique cultural mix associated with the origins of crew members of vessels visiting the Port can be explored and illustrated. The linkage between visiting crews, their

national identity and local communities in Dublin has the potential to explore new cultural opportunities between the City, its people and visitors.

- The Port as a venue – there are also opportunities for areas of the Port to be used as venues for cultural activities, including open air cinema or concert performances on an ad hoc basis.
- Heritage – Dublin Port Company and its predecessors (including Dublin Port & Docks Board) has a wealth of archival material that can be made more publicly accessible. Again, modern technology has made digitisation of this material possible to bring important documents to a wider public.
- Heritage Trail– Dublin Port Company has commenced the development of a Port Heritage Trail starting with the Diving Bell and continuing with the *Opening port Centre Project*. Further initiatives are planned over the coming years with the objective of creating a multi-faceted heritage trail commencing in the City and leading into the heart of the Port.
- Immovable Port Heritage – the links between the Port and the City can be enhanced through the preservation / reinstallation of some immovable port heritage on the city quays. The Diving Bell on Sir John Rogerson’s Quay is a new addition to Dublin’s public realm. In addition Crane 252 has been installed adjacent to Port Centre as part of the *Opening port Centre Project*.
- Spear casting ceremony – each year at the start of the Lord Mayor’s year in office, he or she is invested as the Honorary Admiral of Dublin Port coinciding with the launching of the South Docks Festival. As part of this event, the Lord Mayor casts a spear into the River Liffey in a re-enactment of Thomas Mayler, the Mayor of the City, casting a spear into the Bay in 1488 to mark the limits of the City.
- Twinning – Dublin Port Company intends to identify opportunities with Dublin City Council to forge links between Dublin and other port-cities throughout the world with a view to enhancing appreciation of Dublin as a port-city.

Environment / Ecological

Dublin Port is intertwined with a dynamic natural environment. Located adjacent to Natura 2000 sites of international importance, Dublin Port Company will work with habitat and nature interests and with other stakeholders, particularly through the Dublin Bay Biosphere partnership, to ensure that the full resource that these habitats and areas provide for wildlife and for the wider public in Dublin are managed, controlled and supported.

Dublin Port Company will, if necessary, examine options for possible mitigation measures likely to be available if future port capacity requirements involve potential negative impacts on existing habitats. In doing this, Dublin Port Company will seek to ensure that there is a net increase in natural capital.

Community Engagement

All of these initiatives and the general interaction between the Port and wider communities will be the subject of extensive stakeholder engagement projects and programmes. Formal

structures are continually reviewed to facilitate effective engagement with local stakeholders and their elected representatives. This involves three additional aspects:

- Surplus Lands – The Port will consider, on a sympathetic basis, granting access or use to local communities of the small areas of potentially surplus port lands that might be available at the margins of the Port Estate. This will be done strictly for community purposes, such as the creation of a community garden, an urban farm or recreational space. Such access will be made in the context of resources available at the time and in light of the current and future requirements of the Port.
- Education – The Port’s existing programme of support for community education will be maintained. In particular, programmes to meet the potential skill set required for people who wish to seek employment in the Port estate will be addressed in conjunction with local education interests. Dublin Port Company will support programmes to provide skills to local residents to enable them to gain employment in the many years of construction works that lie ahead as Masterplan projects are constructed.
- Community support – Dublin Port Company will continue to review the level of its support for local communities through its CSR programme as volumes grow and as the Company’s financial performance increases.

Leisure Activities

Dublin Port is a vibrant centre for leisure activity. The port is currently home to a number of sporting and leisure clubs such as rowing clubs (St. Patrick’s and Stella Maris), Poolbeg Yacht Club and marina and the moorings of private boat owners. The Port will continue to develop initiatives to promote leisure activities such as sailing, swimming and fishing, working with the established clubs on ways to involve more people in marine based activity.

Implementation of Soft Values Programme and Prioritising Resources

The implementation of a programme designed to enhance the soft values of the Port and secure greater integration between the Port and the City and its people over the period of the Masterplan will continue to attract considerable resources.

The most important element on the part of Dublin Port Company is an acceptance of the wider impact of the Port on the City and the community and recognition of the imperative of integrating the Port with the City. This is reflected in the objectives outlined above.

In the Report on the Dublin Port Company Masterplan Review Consultation Process (April 2017) it was noted that as a consequence of the consultation process and the responses to the Masterplan Review Consultation Paper, some further reports and studies may be required touching on the Soft Values Programme and the cultural heritage and leisure aspects of the Masterplan. Dublin Port Company has addressed these issues in the following paragraphs and believes that any further reviews will take place periodically and in the context of specific projects brought forward for development under the Masterplan.

Soft Values Programme

Dublin Port Company regards the Soft Values Programme as core to the achievement of the Masterplan objectives of achieving closer integration of the Port with the City and its people as reflected in the Soft Values Strategic Framework approved by the Board of Dublin Port Company in September 2012. This Framework has informed the Company's approach to the Soft Values Programme and underpinned specific initiatives which have been taken since the Masterplan was first published, including;

- The creation of new maritime industrial heritage attractions in the City's public realm
- The continuation of the Company's CSR programme in the areas of Sport, Education and Community Events
- Commissioning of music and visual arts projects in conjunction with key Dublin cultural institutions and city landmarks.
- The development of Riverfest into a major annual event in Dublin City in conjunction with Dublin City Council and Waterways Ireland.
- The commencement of landmark Boundary Projects between Dublin Port and the City – including the Opening Up Port Centre Project along East Wall with new public amenities and access
- The identification and development of areas within Dublin Port for public performance events.
- The creation of new areas of public realm within Dublin Port and its adjacent area
- Programmes to increase public access to the Port area

During the period covered by the Masterplan, Dublin Port Company will remain committed to the implementation of an effective, visionary and targeted Soft Values Programme. This will be reflected in specific soft values initiatives being brought forward each year aimed specifically at achieving closer integration with the City and the people of Dublin.

Additionally, specific development projects brought forward under the Masterplan will also assess if any new soft values initiatives are pertinent to those development proposals and this assessment will be made at an early stage in the project planning, whether in the context of community gain measures or otherwise.

Finally, the Soft Values Programme will be reviewed and updated by Dublin Port Company periodically during the lifetime of the Masterplan to ensure that it is meeting its core objectives of achieving closer integration between the Port and the City.

Cultural Heritage and Leisure

Cultural and artistic initiatives remain a key element of Dublin Port's soft values strategy and will continue to form a core part of Dublin Port's programme to integrate the Port with the City and its people.

The Port also contains a significant heritage element, whether through archival material, or

industrial and architectural heritage within the Port Estate. In this Masterplan, Dublin Port Company has identified specific programmes and initiatives to increase access and awareness of the Port's cultural heritage dimension.

Dublin Port remains a vibrant area for mainly water based leisure activities. Dublin Port Company remains committed to the strong relationships promoting different leisure activities to involve more people in marine based activity.

The initiatives and approach identified in the Masterplan will continue to be implemented as the Port continues its commitment to integrate the Port with the City and its people.

In addition to the general commitments contained in the Masterplan for Dublin Port Company to make a positive contribution to the social and cultural life of the City, Dublin Port Company will carry out project specific heritage and leisure assessments of proposals for individual development projects brought forward under this Masterplan.

These assessments will examine how, in the context of specific proposals for development, cultural, heritage and leisure elements can be facilitated during construction and once individual projects are commissioned in line with the commitments in the Masterplan.

The principles underpinning these assessments will include:

- Facilitating public access to the Port in a manner which is consistent with the safe and secure operation of a modern busy Port.
- Providing the public with an opportunity to learn more about the Port's heritage through showcasing heritage assets within the Port and providing clear context to the historical development of different areas of the Port.
- Where public access is limited due to operational constraints, utilising technology to facilitate people learning more about the Port, its history and evolution.
- Engaging with leisure interests, especially the sailing and rowing clubs adjacent to the Port, to ensure that specific developments facilitate not only the continuance of the Port as a vibrant area for leisure activity but also, where possible, its expansion.

These principles will underpin the operation, management and development of the Port over the period of the Masterplan and implementation plans will be continually updated to give effect to the initiatives outlined above. Given the nature and scope of the measures identified, their implementation will be on a phased basis with some initiatives capable of immediate implementation while other initiatives will require a longer term programme.

- Health & Safety
- Security

9. SAFETY AND SECURITY

Introduction

Dublin Port is a large and dynamic industrial estate with 24 hour operations. It is the centre for the importation and dispatch of products, including fuels, which require careful handling and storage to ensure that they remain stable and safe for use by consumers and businesses. The Port is also a centre for the movement of people and goods to and from Ireland, with large numbers of passengers and significant amounts of freight passing through the port annually.

In both these contexts there are significant potential security, health and safety risks that need to be managed in the operation of the Port. In advancing the development options in the Masterplan, Dublin Port Company will ensure that the health, safety and security procedures at Dublin Port accord with best international practice and facilitate the operation of a modern, efficient and safe facility for passengers, freight and people working in the Port.

Safety

Dublin Port is a large industrial estate with a wide range of activities taking place involving both land based and waterside operations. As such the operations at the Port carry manageable risks to the safety of people and to damage to the land or marine environments.

Land based activities include the loading, discharging and handling of a variety of cargoes, the movement of road traffic of different types (freight, tourist vehicles, cyclists and pedestrians), and the storage of oil and gas and rail freight. Water based activities include the movement of shipping within the Port area and out in the Bay, manoeuvring adjacent to berths, the provision of pilotage / towage services to vessels, and the management of leisure craft in the Port area and in the shipping channels in the Bay.

The activities at Dublin Port pose different types of potential risk ranging from collisions involving shipping to accidents involving pedestrians. To address and manage these risks, procedures have been developed by Dublin Port Company and the various operators within the Port to ensure that the Port operates in accordance with best international practice and in accordance with recognised safety standards. Procedures have also been developed, and are frequently tested, to respond to any emergency, within the Port area, either on land or on water.

In January 2016, the Health and Safety Authority introduced the Code of Practice for Health and Safety in Dock Work to provide guidelines for all operators in ports (including

Dublin Port Company, terminals operators, stevedores, truck drivers, ships' crew and others).

As there are Seveso sites located within the Port Estate, Dublin Port Company attaches a high priority to addressing the potential risks that oil, gas and bitumen storage presents to the safety of communities adjoining the Port. In assessing the risks involved, Dublin Port Company fully prepares for the potential risks arising from routine operations and also, the consequences of any accident within the Port. Such risk assessments and response protocols are kept under continual review with the relevant operators and external authorities and modified in line with improvements in international standards.

Safety exercises and routines are frequently carried out involving the emergency services including the Gardaí, Fire Brigade, Civil Defence and the Health Service Executive in order to ensure adequate preparedness and co-ordination of responses in the event of an emergency.

In the context of the development options outlined in the Masterplan, it is the practice of Dublin Port Company to assess and evaluate the various safety and environmental risks associated with any projects when they are being planned, constructed or ultimately operated.

An initial safety assessment of the development proposals envisaged in the Masterplan suggests that they will deliver an improvement in the safety and efficiency of current port operations. This will be achieved through improved design and layout of existing areas with an enhanced operational and environmental management system.

Security

Security at all major seaports has been tightened considerably over the last decade.

The International Ship and Port Facility Security Code (ISPS Code) focuses on the ship / port interface. As a consequence, ports are required to introduce measures to ensure that "undesirable" personnel or goods are not allowed to access this interface. This has led to increased regulation of security protocols at Dublin Port (specifically the introduction of Port Facility Security Plans), which in turn have an impact on the layout and configuration of operations at the Port.

The EU has extended the security requirements for ports, under EU Directive 2005/65, to extend the targeted security area beyond the ship / port interface (under the ISPS Code) to encompass the entire port area.

Dublin Port Company in close co-operation with An Garda Síochána has introduced stringent security measures to comply with these requirements.

The Port is also working closely with State bodies to define and implement border requirements to provide mandatory EU border inspection controls, to accommodate enhanced national security and also to meet whatever additional border controls might be required as a result of Brexit.

Safety and security and the Masterplan

The obligations and guidance provided by the EU and international authorities have been factored into the development options outlined in the Masterplan. Dublin Port Company is confident that the development options in the Masterplan can be delivered while satisfying all relevant safety and security requirements. This will ensure that Dublin Port can deliver enhanced capacity in a safe and secure environment for customers, employees and visitors to the Port.

- Strategic Environmental Assessment
- Strategic Natura Impact Statement
- Biodiversity
- Cumulative effects
- Mitigation and Monitoring Measures

10. SUMMARY OF ENVIRONMENTAL STUDIES

Introduction

Dublin Port Company is committed to achieving high standards of environmental management. This is reflected in the company's commitment to its ESPO / EcoPorts Ports Environmental Review System (PERS) and ISO 14001 Environmental Management System Standard certifications. These certifications were initially achieved in 2008 and the company was recertified to both of these standards, most recently in 2018. In addition, DPC obtained certification for ISO 50001 the International Energy Management Standard in December 2016.

This section on environmental studies provides an overview of the Strategic Environmental Assessment (SEA) Environmental Report and the Natura Impact statement (NIS) which were prepared as part of Dublin Port Company's Masterplan 2040.

The SEA Environmental Report and the NIS should be read in conjunction with Masterplan 2040. All documents are available on the Dublin Port Company Masterplan website for download and review (<http://www.dublinport.ie/masterplan>).

The publication of the SEA Environmental Report alongside the draft Masterplan and NIS, provided a final formal consultation opportunity for different stakeholders to express their views prior to the finalisation and adoption of the Masterplan by Dublin Port Company.

DPC has committed to reviewing and implementing all the necessary recommendations and mitigation measures identified in Section 9 of the SEA Environmental Report, in the context of future development proposals brought forward under the Masterplan. The general mitigation measures proposed accord with good working practices to support and enhance the sustainability of developments brought forward under the Masterplan. This section also contains proposed specific mitigation or compensation measures to help avoid, mitigate or reduce potential negative impacts on the wider environment arising from the development and operation of the Port.

Strategic Environmental Assessment

The purpose of the SEA is to ensure that any likely significant environmental impacts arising from implementation of the Masterplan's proposed options are identified and any risks are avoided, mitigated or reduced. Preparing the SEA as part of the Masterplan, supports proper planning and sustainable development in Dublin Port as projects are implemented in the years to 2040.

On behalf of Dublin Port Company, RPS carried out an SEA Screening in May 2017 for the Dublin Port Masterplan 2040 and subsequently determined that an SEA of the Masterplan was required due to the following reasons:

- The outcome of the pre-screening check (details of which are in the Screening Report) indicated that a SEA is required.
- The infrastructure development projects for Dublin Port included within Masterplan 2040 have the potential to result in significant effects on the environment. Consequently carrying out an SEA of the Masterplan allows for the early consideration of environmental issues.
- Masterplan 2040 will form a framework for future projects and the allocation of resources to develop Dublin Port into the future.
- Masterplan 2040 will influence spatial plans at both a regional and local level.
- Masterplan 2040 may require an assessment under Article 6 of the European Union (EU) Habitats Directive.

The SEA Environmental Report has been prepared in accordance with:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 [S.I. 435/2004]
- European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 [S.I. 200/2011]
- The Planning and Development (Strategic Environmental Assessment) Regulations 2004 [S.I. 436/2004]
- Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 [S.I. 201/2011].

Natura Impact Statement

A Natura Impact Statement (NIS) was developed to document an appropriate assessment of the implications of the Masterplan 2040 on European Sites in view of their conservation objectives. The NIS comprises a scientific examination and analysis to determine whether or not Masterplan 2040 will adversely affect the integrity of any European site. This is the second test envisaged by Article 6(3) of the Habitats Directive 92/43/EEC, known as 'Appropriate Assessment', and as set out in Section 1.2.1 of the allied Screening for Appropriate Assessment Report which preceded the NIS. This examination and analysis under Directive 92/43/EEC was conducted in parallel with the preparation of the SEA Environmental Report. The outcomes and mitigation or compensation measures proposed in the NIS have been incorporated into the SEA

Environmental Report and this Masterplan where appropriate.

Assessment and Selection of Alternatives

It is a requirement of the SEA that the likely significant effects are identified in relation to “reasonable alternatives taking into account the objectives and the geographical scope of the plan” (EU SEA Directive, Article 14). Only alternatives which were identified as being reasonable towards achieving the objectives of the Masterplan and capable of delivery by Dublin Port Company were considered.

Two options were assessed within the SEA Environmental Report:

- Option 1: The Evolution of the Environment in the Absence of the Masterplan 2040 comprising the range of infrastructure development options as described in the Masterplan 2012-2040
- Option 2: This comprised the one technically feasible set of infrastructure development options identified to provide capacity for an annual throughput of 77 million gross tonnes by 2040.

SEA Environmental Report – Assessment

The two available options were assessed in terms of their potential positive and negative impacts, and the significance of these impacts on the environment against the SEA objectives. The purpose of this assessment is to predict and evaluate, as far as possible, the environmental effects of these proposed developments, highlighting any significant environmental problems and / or benefits that are likely to arise from their implementation.

The options have been assessed via a Baseline Led Assessment. This method involves the assessment of the proposed developments which make up each of the options against each of the following topics:

- Biodiversity, Flora & Fauna (BFF).
- Population & Human Health (PHH).
- Geology, Soils and Land use (S).
- Water (W).
- Air, Noise & Vibration (ANV).
- Climatic Factors (C).
- Material Assets & Infrastructure (MA).
- Cultural, Architectural & Archaeological Heritage (H).
- Landscape & Visual Amenity (L).

The proposed developments arising from the options were assessed in the short, medium and long term for likely effects (including reference to secondary, cumulative, synergistic, permanent and temporary, positive or negative effects), the significance of the effects, and whether they are positive or negative effects.

The timeframe of the phasing of the development options was taken into consideration during the assessment, with the baseline information to be included in the assessment changing, depending on the stage of the Plan.

The phasing of the proposed developments in the Masterplan will take place in anticipated timeframes throughout the Plan period, up to 2040.

For the purposes of the SEA the timeframes for the phasing of developments emerging from the Dublin Port Masterplan 2040 were described as the short (2017 - 2021), medium (2021 - 2031), and long (2031+) term. Consequently the impact assessment addresses the construction and operational phases of the development proposals.

Appropriate mitigation measures likely to avoid or minimise potential environmental impacts have been proposed in order to allow for the options to be assessed pre-mitigation and post-mitigation.

Full environmental assessments of the two options, with and without Plan level mitigation, can be found in Section 8 and Appendix F of the SEA Environmental Report. A summary of the output from environmental assessment of Masterplan 2040, with Plan level mitigation, is given in Figure 10.1.

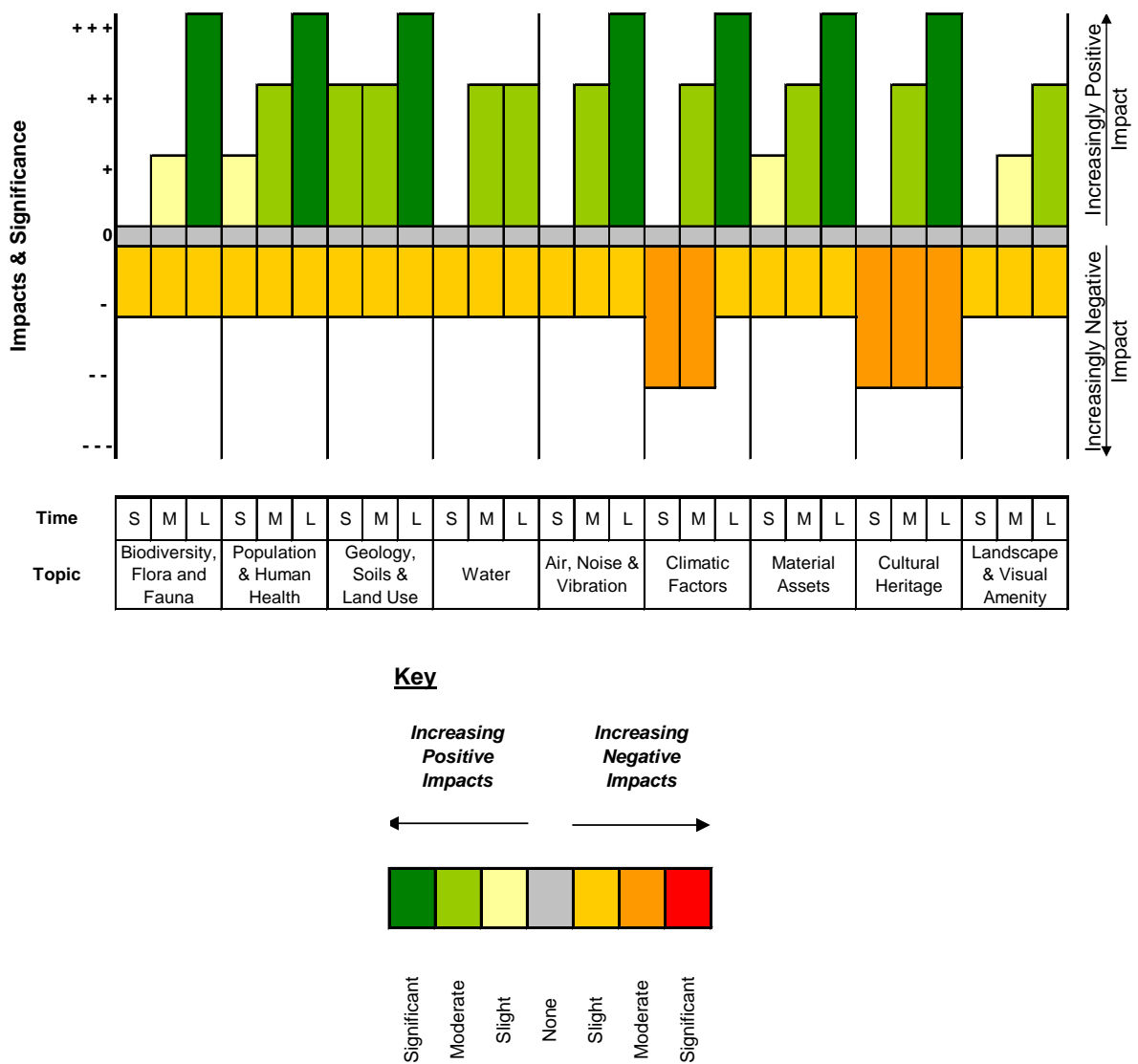


Figure 10.1 Summary Chart of Impacts – Masterplan 2040 – With Plan Mitigation

The implementation of Masterplan 2040 will result in more positive impacts when compared to the anticipated impacts resulting from the original Masterplan 2012-2040. The medium and long term impacts on biodiversity, flora and fauna are likely to improve from slightly positive to moderately positive. The long term impacts to biodiversity, flora and fauna are likely to improve from moderately positive to significantly positive with the exclusion of the option of further infill into Dublin Bay as envisaged in Masterplan 2012-2040.

The potential for medium and long term significant negative impacts to biodiversity, flora and fauna from development of deep-water berths off the southern lands is likely to decrease to slight negative impacts based on the successful incorporation of the identified compensation measures. The removal of the tern dolphin may only proceed provided the integrity of the South

Dublin Bay and River Tolka Estuary SPA is not impacted.

The medium and long term negative impacts to the population and human health are likely to reduce to slight negative impacts with less noise disturbance and air emissions to the local communities with mitigation measures developed during the plan and environmental assessments.

The significant negative medium and long term impacts to geology, soils and land use are likely to reduce to slight negative impacts with the omission of further infill into Dublin Bay as an option.

The moderate negative medium and long term impacts to water are likely to reduce to slight negative impacts, with improvements in flood risk management at Dublin Port. Air, noise and vibration impacts are likely to permanently reduce to slight negative impacts with the instalment of shore-side electricity facilities, and are likely to improve to moderately positive in the medium term and significantly positive in the long term with the creation of public realm, development of the SPAR link and the relocation of Lo-Lo operations away from local communities.

There is likely to be an overall improvement in climatic factor impacts in the medium and long term with the instalment of shore-side electricity facilities and the inclusion of management for flood risk into all future development at the Port.

Potential impacts in the medium and long term to the overall landscape are likely to improve with the omission of the option of further infill into Dublin Bay, the inclusion of greater public realm in Masterplan 2040 and the inclusion of screening into the design of greenways and public realm areas.

Overall the engineering options outlined in the Masterplan 2040 represents a more sustainable development programme than the proposals contained in the Masterplan 2012 which allows for the achievement of the required 77m gross tonnes throughput per annum.

Natura Impact Statement – Assessment

The NIS details the findings of the AA conducted to further examine the potential direct and indirect impacts of the development options in the Masterplan 2040 on the following European sites:

- Baldoyle Bay SAC
- Codling Fault Zone SAC
- Howth Head SAC
- Lambay Island SAC
- Malahide Estuary SAC
- North Dublin Bay SAC
- North Dublin Bay SAC
- Rockabill to Dalkey Island SAC
- Rogerstown Estuary SAC
- South Dublin Bay SAC
- Baldoyle Bay SPA
- Malahide Estuary SPA

- Rockabill to Dalkey Island SAC
- Rogerstown Estuary SAC
- South Dublin Bay SAC
- North Bull Island SPA
- Rogerstown Estuary SPA
- South Dublin Bay & River Tolka Estuary SPA

The NIS concluded that adverse effects upon the integrity of a European site were not predicted, with mitigation measures being applied, to counteract effects of:

- Pollution incidents or elevated suspended sediments
- Underwater noise or disturbance
- Aerial noise or visual disturbance
- Habitat loss

Adverse effects on the integrity of the South Dublin Bay and River Tolka Estuary SPA, however were predicted to occur at a project stage if the option to provide new deepwater Lo-Lo and multipurpose berths is implemented in a location incompatible with the existing tern breeding site on the mooring dolphin. The direct and permanent loss of the mooring dolphin, as the principal nesting site of breeding terns in the South Dublin Bay and River Tolka Estuary SPA, cannot be mitigated for at the Plan level. As described in Section 5 of the NIS, mitigation cannot be proposed in accordance with Article 6(3) of the Habitats Directive and compensation is instead envisaged. At the project level and through the AA process, removal of this mooring dolphin can only occur through demonstrating an absence of alternative solutions and meeting the criteria for Imperative Reasons of Overriding Public Interest (IROPI).

Cumulative Effects

Cumulative effects are those effects which occur as a result of multiple actions upon the same receptor – whether a community, a group of people or an aspect of the environment. Masterplan 2040 is likely to be implemented alongside a number of other plans and projects identified for the surrounding area. On review, the majority of the potential cumulative effects require no further mitigation measures. However, in the case of plans or projects where the potential for cumulative effects was identified, mitigation has been identified in the SEA Environmental Report to reduce the potential for these impacts.

Environmental Mitigation and Monitoring Proposals

Mitigation measures are the initiatives identified in the SEA Environmental Report and NIS to prevent or reduce any potential significant impacts on the environment. A summary of the specific mitigation measures is provided below. These mitigation measures include extant measures contained in permits for the ABR Project:

- Marine Mammal Observers (MMOs) will be employed as part of any development within the marine environment including piling works and capital dredging. These MMOs will have the authority to prevent works taking place when marine mammals are close enough to be at risk. This will minimise the construction phase impacts of these works in the short and

medium term on marine mammals.

- Capital dredging will be confined to the winter months. This timing of works will avoid any short and medium term impacts on the foraging activity of birds during the breeding season and of harbour porpoises during the breeding and calving season.
- All dredging activities are subject to planning, licensing and permitting, and then subsequent conditions of operation, minimising the short and medium term negative impacts on the wider environment.
- Sediment transport modelling will be used to ensure that there are no significant impacts on the protected reef habitat which is designated as part of the Rockabill to Dalkey Island SAC. This will negate against any construction phase sedimentation impacts on this habitat as a result of development arising from Masterplan 2040.
- Coastal process modelling will be undertaken for all marine development to ensure that there are no impacts (both during and after construction) on the intertidal habitats that support the species designated as qualifying interests. This will reduce any temporary construction phase and permanent indirect impacts on the numerous bird species found in Dublin Bay.
- The conditions included in the Dumping at Sea Permit to reduce impacts on water quality will be maintained to result in an avoidance of any potential indirect impacts on the qualifying interests of the European Sites.
- Waste water discharges will be compliant with the requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009. This will minimise any potential impacts of waste water discharges on surface water both during construction and post-construction.
- Modelling of waste water and storm water discharges from treatment areas will be undertaken to ensure that there is no measureable impact on the environment. This will negate direct and indirect construction phase impacts on water and biodiversity, respectively.
- Drainage systems onsite will maintain a separation between clean storm water and potentially contaminated runoff to ensure that water is treated onsite before discharge. This will reduce direct and indirect construction phase impacts on water and biodiversity, respectively.
- Drainage from bunded and waste storage areas will be treated as contamination. Visual inspections and proper maintenance of these areas will be provided. These measures will reduce direct and indirect construction phase impacts of this drainage to water and biodiversity, respectively.
- Documented Emergency Response Plans and an Accident Prevention Procedures are in place at Dublin Port, reducing the potential for accidental spillages and the severity of potential spillages, which could result in contamination of water quality and sediment. These plans and procedures will be continually maintained and updated as necessary.
- Noise-producing activities such as piling will only take place during daylight hours and monitoring of these activities will be ongoing. This will reduce construction phase noise impacts to the local communities in the short and medium term.

Dublin Port Company has agreed to the implementation of additional mitigation measures developed as part of Masterplan 2040:

- The location of new Lo-Lo operations on Dublin Port Company lands on the Poolbeg Peninsula will take account of the potential impact of noise and vibration impacts on potentially sensitive receptors within the established and proposed new communities in the area.
- The Southern Port Access Road will be developed to keep port traffic within the Port Estate, reducing impacts on the local public road network. This will reduce disturbance and air emissions to the local communities in the long term.
- Shore-side electricity facilities will be provided at all new berths. Vessels will no longer be required to leave engines idling while docked. Once these facilities are operational there should be moderate reductions in local air emissions at the dockside, initially in the Alexandra Basin West area, then in the Unified Ferry Terminal and then at the Poolbeg deep water berths, reducing air emissions, carbon usage and, noise levels.
- All future port development will be designed for flood risk and climate change influenced flood risk. The greenway developments, the MP2 Project and developments on the Poolbeg Peninsula will be designed to provide protection to the areas behind the shoreline from coastal flooding. This is likely to result in the potential for medium and long term moderate positive impacts to water and climatic factors.
- Design of all greenways and buffer areas between the port lands and the public will include natural screening, to ensure that views of industrial port activity are partially blocked. This is likely to result in slight positive impacts to the landscape of the area in the medium term. This will increase to moderate positive impacts in the long term with the establishment of vegetation.
- Design of the greenway between Northern Port Lands and the South Dublin Bay and River Tolka Estuary SPA will include screening to ensure that industrial port activity is partially blocked to the waterbird species in this SPA. Screening is likely to result in slight positive impacts to the waterbirds of the South Dublin Bay and River Tolka Estuary SPA in the medium term. This will increase to moderate positive impacts in the long term with the establishment of vegetation.
- The NIS concluded that the direct and permanent loss of the SPA designated mooring dolphin (tern colony), as the principal nesting site of breeding terns in the South Dublin Bay and River Tolka Estuary SPA, cannot be mitigated for at the Plan level. As described in Section 5 of the NIS, compensation is instead envisaged. At the project level and through the AA process, removal of the tern dolphin will only occur through demonstrating an absence of alternative solutions and meeting the criteria for Imperative Reasons of Overriding Public Interest (IROPI). If these conditions are met and the compensatory measures are found to ensure that the integrity of the SPA is maintained, this development may occur. As a result, this process is likely to decrease the significant negative impacts to biodiversity in the medium and long term to slight negative impacts, from ongoing Port operations.
- Dublin Port Company will develop a multi-faceted heritage trail commencing in the City and leading into the heart of the Port. This integrated trail provides permanent protection to the cultural heritage of the area as well as improving the landscape of the area.

- Dublin Port Company is committed to a Soft Values Programme to enhance accessibility and integration between the Port and the City.

Environmental monitoring undertaken at Dublin Port has been utilised within the SEA Environmental Report. Additional recommended environmental monitoring has been developed based on the SEA objectives, which is shown in Appendix 1. The purpose of the monitoring programme is to assess the impact of Masterplan developments on the wider environment. This will assist in identifying at an early stage any unforeseen effects resulting from the Masterplan so that timely and appropriate responses can be implemented. Any downturn in an indicator in the vicinity of the Port will be investigated to determine if it is linked to Port activity and to assess what measures may be required to rectify any issues.

Dublin Port Company is also committed to developing a Natural Capital Policy for Dublin Port. There is a growing appreciation across many sectors of the benefits of using the concept of Natural Capital to achieve sustainability.

Conclusion

The SEA Environmental Report and NIS have identified the potential positive and negative impacts on the wider environment of constructing and operating the preferred development options. Implementation of the mitigation and compensation measures committed to in this section of Masterplan 2040 can minimise the potential for negative impacts and can provide benefits to the wider environment through improvements in Port facilities and operations.

Overall there was found to be the potential for slight to moderate negative environmental impacts from construction and operation of the developments options identified in Masterplan 2040 on the wider environment. In the medium and long term, any potential negative impacts are mostly slight.

The potential impacts on the wider environment in the medium and long term due to the implementation of the Masterplan 2040 have been identified as being an improvement in comparison to the potential impacts identified with the implementation of the infrastructure development options originally included in Masterplan 2012-2040. This is largely due to:

- The omission of options to provide additional capacity by further infill into Dublin Bay
- The transfer of large volumes of activity to Dublin Inland Port away from sensitive receptors
- Throughput at Dublin Port reaching 77 million tonnes per annum

- Project phasing
- Finance
- Need

11. IMPLEMENTATION OF THE MASTERPLAN

A 30 year Horizon

The essence of the Masterplan is that it sets out how Dublin Port **might** develop in the future on the basis of an assumed growth path over a long period (30 years from 2010 to 2040). It is not intended to be, and nor can it ever be, a precise statement of what will happen.

However, it does outline core principles and policies that will inform how the Port will operate and grow over a long period. These represent commitments and undertakings as to how Dublin Port Company will seek to develop the Port in harmony with both the natural and built environments, closely linking the Port with the City and people of Dublin.

When Dublin Port Company comes to bring individual projects forward for development, it will do so within the framework of these commitments and undertakings and will be further guided by need and finance.

Anticipating Capacity Demand

In the first instance, Dublin Port Company will only bring projects forward when there is some reasonable level of certainty about future demand. In particular, the Company will keep market developments under review with customers (both existing and prospective) and will seek to tie private sector operators into complementary investments (in cargo handling equipment for example) or suitable franchise agreements in line, where necessary, with the EU Concessions Directive (2014/23/EU) and, where possible, in compliance with the recommendations of the Competition and Consumer protection Commission's report *Competition in the Irish Ports Sector* (2013).

In this way, Dublin Port Company will seek to:

- Avoid speculative investments and will only proceed where the project risk being assumed by the Company is matched by a related private sector operator's risk.
- Maximise competitive forces between operators within Dublin Port to the benefit of consumers

Financing Development

Dublin Port Company is a robust and financially strong company as shown by the summary below of its financial performance over the five years to 2016.

The infrastructure options in the Masterplan are advanced with an eye to the Company's ability to finance them. Dublin Port Company envisages the Port developing through a series of bite-sized project investments which keep the company within the bounds of reasonable and acceptable levels of financial risk associated with taking on project debt.

(€'000)	2013	2014	2015	2016	2017
<i>Gross tonnes</i>	<i>28.8m</i>	<i>30.9m</i>	<i>32.8m</i>	<i>34.9m</i>	<i>36.4m</i>
Turnover	68,375	72,089	77,674	81,633	85,497
EBITDA	41,497	43,243	49,306	53,642	53,625
Operating Profit	32,818	36,141	42,941	45,554	46,512
Average capital employed	290,713	294,284	298,132	327,376	387,809
ROCE	11.3%	12.3%	14.4%	13.9%	12.0%

In some cases, notably the development of multi-purpose berths suitable for large cruise ships, external finance will be required to reflect the disproportionate distribution of the benefits between Dublin Port Company and operators in the tourism sector.

Implementing the Masterplan

Dublin Port Company will work closely with Dublin City Council in the implementation of the proposals outlined in the Masterplan. There is a shared objective to ensure that the Port operates effectively and efficiently to serve the Eastern and Midlands region and, more widely, the whole country. The Masterplan will form the basis for future submissions by Dublin Port Company in a number of policy areas including:

- The Regional, Spatial and Economic Strategy of the Eastern and Midlands Regional Assembly
- Future City and County Development Plans for in the Greater Dublin Area
- Other plans such as SDZ Planning Schemes and Local Area Plans

It is particularly important that Dublin Port Company and Dublin City Council work effectively together to ensure that any projects that are required are brought forward in time to ensure that capacity can be provided when required.

It is also important that Dublin Port Company works with Dublin City Council on the implementation of the programmes and initiatives designed to secure greater integration between the Port and the City. Dublin Port Company will also work closely with the National Transport Authority and Transport Infrastructure Ireland on the development of prospective projects arising from the Masterplan to assess both the impact on existing and planned

transport networks and to ensure consistency with national and regional transport policy objectives.

Moreover, Dublin Port Company will need to and is committed to continue its engagement with the NPWS and other stakeholders charged with environmental protection and the preservation of the natural heritage of Dublin Bay.

In particular, Dublin Port Company will establish a formal structure for engagement with both Dublin City Council and the NPWS on the implementation of the Masterplan, with the intention that this forum shall meet at least annually or more frequently if required. Dublin Port Company will also establish formal structures for engagement on the implementation of the Masterplan with the local community.

The necessary recommendations and mitigation measures identified in both the SEA Environmental Report and the Natura Impact Statement will be reviewed and implemented in the context of future development proposals of the Masterplan. These mitigation measures are detailed in the SEA Environmental Report.

Appendix 1 summarises the framework of environmental monitoring objectives and indicators to be used in monitoring the impact of the implementation of this Masterplan and also to be used at the level of individual projects.

Individual projects will require planning and other consents. In some instances this will involve a planning application being made directly to Dublin City Council or Fingal County Council as the relevant local Planning Authority. In the case of projects that are designated as Strategic Infrastructure (such as the ABR Project), the application will be made directly to An Bord Pleanála as required by law. In either case, Dublin Port Company, in the context of seeking formal consents and approvals for projects, will engage directly and extensively with all stakeholders, in particular with the local communities adjoining the Port.

- Monitoring
- Benchmarks
- Review

12. MONITORING AND REVIEW OF THE MASTERPLAN

Introduction

The Masterplan provides an overarching long-term planning framework for the future development of Dublin Port. From the Masterplan, Dublin Port Company will create and implement shorter term (rolling five year) strategic plans from which individual projects will be brought forward, planned and developed.

All development projects will in turn require assessment and consent from the relevant planning authorities (Dublin City Council, Fingal County Council or An Bord Pleanála) but many of the initiatives outlined in the Masterplan can be developed directly by the Company in consultation with stakeholders without the need for formal permitting consents.

The Masterplan covers a long period of 30 years from 2010 to 2040. Looking back 30 years ago, it is evident that the current state of development of the Port could not have been accurately predicted all those years ago. Likewise, it is possible that the future development of the Port in the period to 2040 may differ from the long-term vision of this Masterplan.

Monitoring

Monitoring the performance of the Port and the achievement of the proposals outlined in the Masterplan will be a key element in ensuring its effective implementation. Effective monitoring will form a critical tool in adjusting and fine-tuning the Masterplan to achieve its strategic objectives. The preparation of base line operational data and the effective monitoring of performance against this information will also be critical to the reviews of the plan which will be carried out over its term.

Data Collection

Following publication of the Masterplan in February 2012, Dublin Port Company prepared the first (2013) annual Sustainability Report. This report incorporates the necessary measures to monitor progress on the implementation of the Masterplan as well as fulfilling other requirements. The contents of the annual Sustainability Report are as follows:

- Update on significant milestones towards achieving sustainability since 1995
- Key events during the year including progress on Masterplan projects

- Energy consumption and progress made in meeting targets under the Public Sector Energy Participation Programme
- Trends in carbon emissions
- Details of air quality measurements
- Reports on specific major initiatives such as the multi-annual Dublin Bay Birds Project carried out in conjunction with BirdWatch Ireland
- Report on safety related developments
- Report on social engagement particularly through Dublin Port's CSR programme
- Company financial performance
- Analysis of employees by age group and gender
- Update on specific sustainability initiatives for the year and the setting of targets for the following year

In addition to the above measures and reporting, Dublin Port operates detailed project specific environmental monitoring programmes. This extends into the marine environment under the terms of EPA licences.

The SEA Directive requires that significant environmental effects resulting from the implementation of plans and programmes are monitored to identify at an early stage any unforeseen effects.

Since the publication of the Masterplan in February 2012, Dublin Port has established the above measures to meet this requirement. Appendix 1 summarises the environmental monitoring framework of Masterplan 2040.

Benchmarks

Benchmarks are set out broadly in the Masterplan. It would not be productive to set rigid benchmarks over a 30-year period when economic and social changes cannot be forecast accurately.

The Masterplan Review 2017 Consultation Paper contained a detailed analysis of progress made in the period from 2012 to 2016 in meeting the Masterplan's objectives. This analysis is contained in Tables 3.1 to 3.7 of that paper and covers objectives in the following seven areas:

- Port functions
- Investment and growth
- Integration with the City
- Movement and access
- Environment and heritage
- Recreation and amenity
- Security

In addition to analysing progress made from 2012 to 2016, these tables also set objectives in each of the seven areas for the period from 2017 onwards. Progress against these future

objectives will be analysed in the Second Review of the Masterplan.

Strategic Environmental Assessment

Dublin Port Company will monitor the Masterplan in accordance with the monitoring section of the Environmental Report. It will publish five year monitoring reports and take appropriate corrective actions if adverse impacts are identified. The first such review will be published in 2018 to cover the period from 2012 to 2017.

All major projects are likely to be subjected to Environmental Impact Assessment to identify impacts and propose appropriate mitigation measures where warranted.

Review

Within the Masterplan, therefore, there will be periodic fundamental reviews no later than every ten years to ensure that the course being followed by the Port does not deviate from what is actually required. Dublin Port Company will take account of changing circumstances (particularly the level of demand for port infrastructure) in determining the actual timing of these reviews. The greater the level of change from the demand levels postulated in this plan, the earlier the review will occur.

In carrying out each such review, Dublin Port Company will consult with external stakeholders to ensure that the Plan continues to represent the best solution for future sustainable development of the Port, the City and the Bay. Such reviews will also be undertaken in accordance with the relevant legal requirements including the requirements of the SEA, Habitats, Floods and EIA directives.

Dublin Port Company will also liaise with Dublin City Council as it periodically updates its Development Plan to ensure that the Masterplan remains relevant within the wider context of the development of the City.

The First Review of the Masterplan has been completed covering the period from 2012 to 2017.

It is envisaged that the Second Review of the Masterplan will take place no earlier than 2023 (to cover the period from 2018 to 2022) and no later than 2028 (to cover the period from 2018 to 2027). The timing of the review will be determined by reference to significant external events which might significantly alter the view of the future set out in this First Review of the Masterplan.

Appendix 1 - Environmental Monitoring of the Masterplan 2040

Environmental Topic	Objectives	Sub-Objectives	Indicators	Possible Data and Responsible Authority		
Biodiversity, Flora and Fauna	1	Avoid damage to, and where possible enhance, the biodiversity, flora and fauna within and in the vicinity of Dublin Port.	A	Preserve, protect, maintain and where possible enhance Natura 2000 network, protected species and their key habitats.	Status, condition, area and number of European sites and species.	NPWS – Conservation Action Plans NPWS reporting on Irelands Habitats and Species – Article 17 Reports. NPWS reporting on the status of Irelands Birds – Article 12 Reports. DPC monitoring and reporting
			B	Preserve, protect, maintain and where possible enhance nature conservation sites/biospheres and protected species or other known species of conservation concern.	Status, condition, area and number of international, national and local conservation designations and their species.	Local Authority – Local Area Plans and County Development Plans. NPWS - Status of Protected Sites and Species in Ireland Reporting DPC monitoring and reporting
			C	Preserve, protect, maintain and where possible enhance undesignated fauna, flora and habitats.	Status and condition of undesignated known fauna, flora and habitats.	Local Authority – Local Area Plans and County Development Plans. DPC monitoring and reporting
Population & Human Health	2	Minimise the risk to and provide benefit for the community and human health.	A	Minimise risk to human health and risk to life within the local community.	Perceived health/disturbance to the local community and number of port-related accidents.	DPC, Local Authority and Emergency Services Reporting CSO statistics
			B	Provide social infrastructure and amenity facilities for the local community.	Numbers and quality of social infrastructure and amenity facilities in the area.	DPC, Local Authority
			C	Provide employment for the local community.	Direct and indirect employment created by DPC.	DPC & CSO statistics
Geology, Soils & Landuse	3	Protect the coastline and soils / sediments.	A	Protect the coastline from erosion.	Areas and rates of coastal erosion rates within the Port Estate.	EPA - CORINE landcover mapping. Local Area Plans and County Development Plans – myplan.ie

Environmental Topic	Objectives	Sub-Objectives	Indicators	Possible Data and Responsible Authority	
				OPW Coastal Protection Strategy Reviews	
		B Protect the soil and sediment from contamination.	Potential contamination and sterilisation of soils and sediments.	DPC monitoring and reporting EPA	
Water	4	Minimise impacts on water quality, water resource and flood risk.	A No negative impacts on the status of coastal waters, surface waters and groundwater, and to provide no impediment to the achievement of water body objectives under the WFD.	Surface, groundwater and coastal waterbody status.	EPA – RBMP / WFD status reporting and updates. DPC monitoring and reporting
			B Reduce water usage and wastewater generated at the Port per unit of freight and passenger throughput.	Water usage and wastewater generated at the Port per unit of freight and passenger throughput.	DPC monitoring and reporting
			C No negative impacts on flood risk management activity, and to provide no impediment to the implementation of the Floods Directive.	Flood risk in the area of port activities.	DPC reporting OPW FRMP for UoM09 - Reviewed every 6 years
Air, Noise and Vibration	5	Minimise impacts on air quality, noise and vibration.	A Minimise impacts on air quality in the area.	Predicted emissions and air quality from port activities.	EPA reporting DPC monitoring and reporting
			B Minimise noise impacts in the area.	Predicted noise levels from port activities.	DPC monitoring and reporting
			C Minimise vibration impacts in the area.	Predicted vibration levels from port activities.	DPC monitoring and reporting
Climatic Factors	6	Minimise emissions of greenhouse gases and port carbon footprint	A Minimise emissions of greenhouse gases and port carbon footprint from development and activity	Predicted greenhouse gas emissions. Carbon emissions	DPC monitoring and reporting
			B Adaptation to potential climatic change.	Climate change influenced flood risk in the area of port activities.	DPC and Local Authority reporting OPW FRMP for UoM09 - Reviewed every 6 years

Environmental Topic	Objectives	Sub-Objectives	Indicators	Possible Data and Responsible Authority	
Material Assets & Infrastructure	7	Protect existing and develop new material assets and infrastructure.	A Protect existing and develop new material assets and infrastructure.	Area of DPC facilities. Energy and transport infrastructure. Freight and passenger throughput.	DPC, Local Authority, ESB, Eirgrid, Eircom, BGE, Irish Water and EPA reporting.
		Minimise wastes from DPC activities.	B Reduce waste generation and increase the rates of reuse and recycling at the Port.	Tonnages of waste being directed to landfills from port activities. Tonnages materials being recycled or reused.	DPC monitoring and reporting
Cultural, Architectural & Archaeological	8	Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate	A Avoid loss of or damage to heritage features and where possible incorporate heritage features into the Port Estate, with particular regard to local maritime and industrial heritage.	Potential loss of or damage to identified heritage sites and features, or their setting. Heritage features incorporated into the Port Estate.	DPC, Local Authority and DCHG reporting.
Landscape & Visual Amenity	9	Protect, and where possible enhance, the landscape / seascape character and visual amenity in the vicinity of the Port	A Protect, and where possible enhance, landscape / seascape character and visual amenity in the vicinity of the Port	Landscape / seascape quality, designated views, and scenic amenity.	Local Authority – Landscape Character Assessments, County Development Plans and Local Area Plans. EPA - CORINE Landcover.

