

September 2007

DUBLIN BAY

An Integrated Economic, Cultural and Social Vision for Sustainable Development





“It is the policy and objective of Dublin City Council to prepare a plan for that part of Dublin Bay from and including North Bull Island and the south wall and up to and including Sandymount, Merrion Strand and Booterstown and also concentrated on the Port area.”

- Dublin City Council, Policy H47 and Objective CUF6

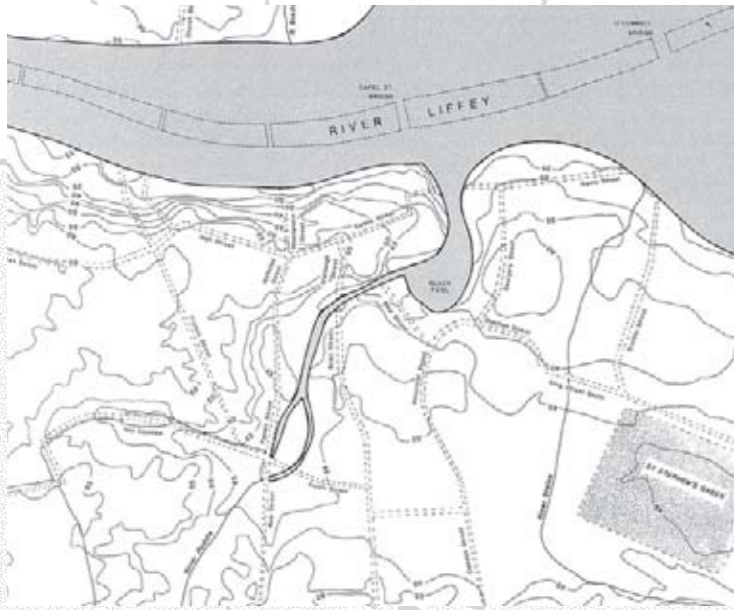
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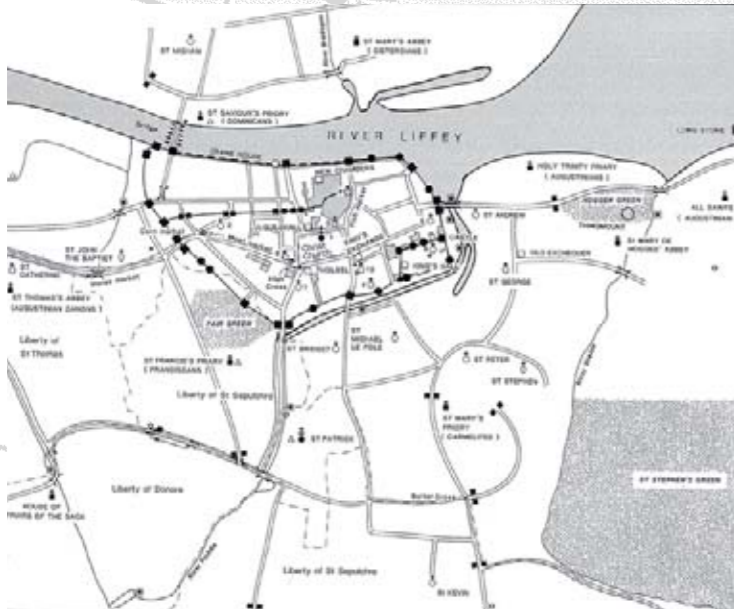


This study has been prepared for Dublin City Council by a team of consultants led by CDM.

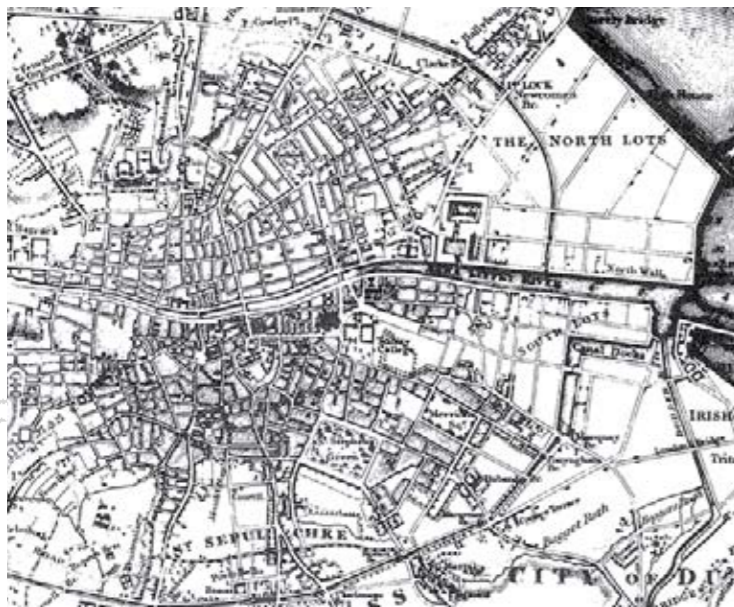




Gaelic Dublin



Medieval Dublin



Georgian Dublin



RIVER LIFFEY

LONG STONE

THINGMOUNT

OLUM GILLE

St MARTIN

BLACK POOL

St PATRICK

St BRIDGET

St MAC TAIL

St PETER

St PATRICK

St PATRICK

River Steine

Dublin City Council commissioned a wide-ranging economic, amenity and environmental study of Dublin Bay, including the Dublin Port area. This study is intended to be the first stage in the preparation of a strategic framework plan for the Dublin Bay area that will guide stakeholders in the long-term development of this resource.

The Bay has experienced significant change and evolution across a wide spectrum of industrial and municipal development activities, with infrastructure development (for example, Dublin Bay project and new power generating facilities) being undertaken side by side with increased pressures for expansion of residential/commercial development, particularly on the south side of the River Liffey. The challenge for the future, and the key to achieving an integrated economic, cultural and social vision sought in the Dublin City Development Plan 2005-2011, is to marry this key economic role of the port with the opportunities the area presents in terms of developable land, access to the sea, recreational amenity and wildlife protection and enhancement.

The core approach of the Development Plan focuses on the creation of a coherent and legible spatial structure in the city. The plan looks at the need to integrate an economic, cultural and social vision, while achieving necessary and sustainable densities within co-ordinating development frameworks. The plan highlights the vital role of Dublin City as the engine of growth for the region and the vital role that

Dublin Port plays in this development. In tandem with this role of the port as a provider for the regional and national economy, there is a growing realization of the strategic importance of the lands on which port activities are currently located and their potential for utilization as residential and employment-generating lands in the future.

In addition, the role of the wider port and bay area as an amenity and ecological resource for an expanding and increasingly densely developed city is recognized in this plan. Dublin Bay offers internationally recognised bird habitats, Bull Island as a one-of-a-kind nature reserve in a capital city, a unique physical geography and extensive amenity use. To make the most of this amenity potential and unique setting for the benefit of an expanding city region will be a challenge in the years to come.

On May 27th, 2002, Dublin City Council adopted Dublin – A City of Possibilities as its economic, social and cultural strategy through 2012. The heart of this 10-year strategy is to create and sustain self-sufficient neighbourhoods with a keen sense of “identity, vibrancy and spirit”. Four cross-cutting approaches are the essence of its methodology to achieve sustainable development at the neighbourhood and city levels: working within a diverse and inclusive context, working toward an informed citizenry, promoting the value of integration and sustainability and collaborative action, and enhancing democratic accountability to create a new model of city governance.

This vision emerged as Dublin and the surrounding areas have been developing at a rapid pace during the last 15 years, with unparalleled growth in both the economy and population. Earlier periods of expansion led to Dublin becoming the major population and industrial centre in Ireland as well as to significant changes in the natural characteristics of Dublin Bay through successive expansion of the City and Port.

In this development context, there is the issue of the effective absence of a framework for coastal zone management. The aim of achieving a balance between enhanced amenity and ecological value of the coastal areas and regional economic development and infrastructure needs requires a stronger context of coastal zone management. Pending a national policy in this area, the City Council and other agencies need to establish some parameters to guide development in the coastal zone and it was envisaged that this study would be the first stage in the establishment of such a context.

The remit for this study spans that part of Dublin Bay included within the functional area of Dublin City Council (thus including North Bull Island and the south wall and up to and including Sandymount, Merrion Strand and Booterstown). Given many relevant and inter-dependent economic, social and cultural issues, the study team considered a wider area encompassing the whole of Dublin Bay, without prejudice to the objectives of Fingal and Dun Laoghaire Rathdown County Councils for their parts of Dublin Bay.



A VISION FOR DUBLIN BAY

FOREWORD

This report is officially “A study as a first stage in the development of a framework for the future strategic role of Dublin Bay and Dublin Port area as a multifaceted resource”.

It is, simply, a blueprint for Dublin Bay, a first step towards a detailed master plan to protect its heritage, to enhance its vitality, and to assure its sustainable use.

It is a reflection of dialogue with many stakeholders representing an array of public and private interests. It is the result of multidisciplinary analyses of possible “alternative futures”.

It underscores the need for partnership among the public and private stakeholders of the city, the region and the country to achieve the goal of establishing Dublin City as a sustainable urban environment.

The more recent dramatic growth has led to social and environmental pressures which need to be addressed. This study – undertaken in a manner reflective of the city’s approach to fulfil its strategy – is the first step in a wide ranging review of the future of the bay area and how it may evolve in future years.

This is not a question of whether Dublin should develop – that process is already well underway. The question now is how the development can be advanced in a more sustainable manner in the context of an integrated economic, social and cultural vision:

- Can Dublin City and Dublin Port partner to achieve growth for the city, region and country and long-term profitability for a world-class port?

“Imagination is what is required if we want to be forward thinking and are to truly create new and exciting possibilities.”

Dublin – A City of Possibilities, 2002

- Can port lands be redeveloped to create an urban village that is a model for sustainable development and quality of life?
- Can Dublin Bay be established as a “national reserve” to protect the heritage and environment of the city and region, through a partnership approach by Dublin City Council, Fingal and Dun Laoghaire Rathdown County Councils, and key national authorities?

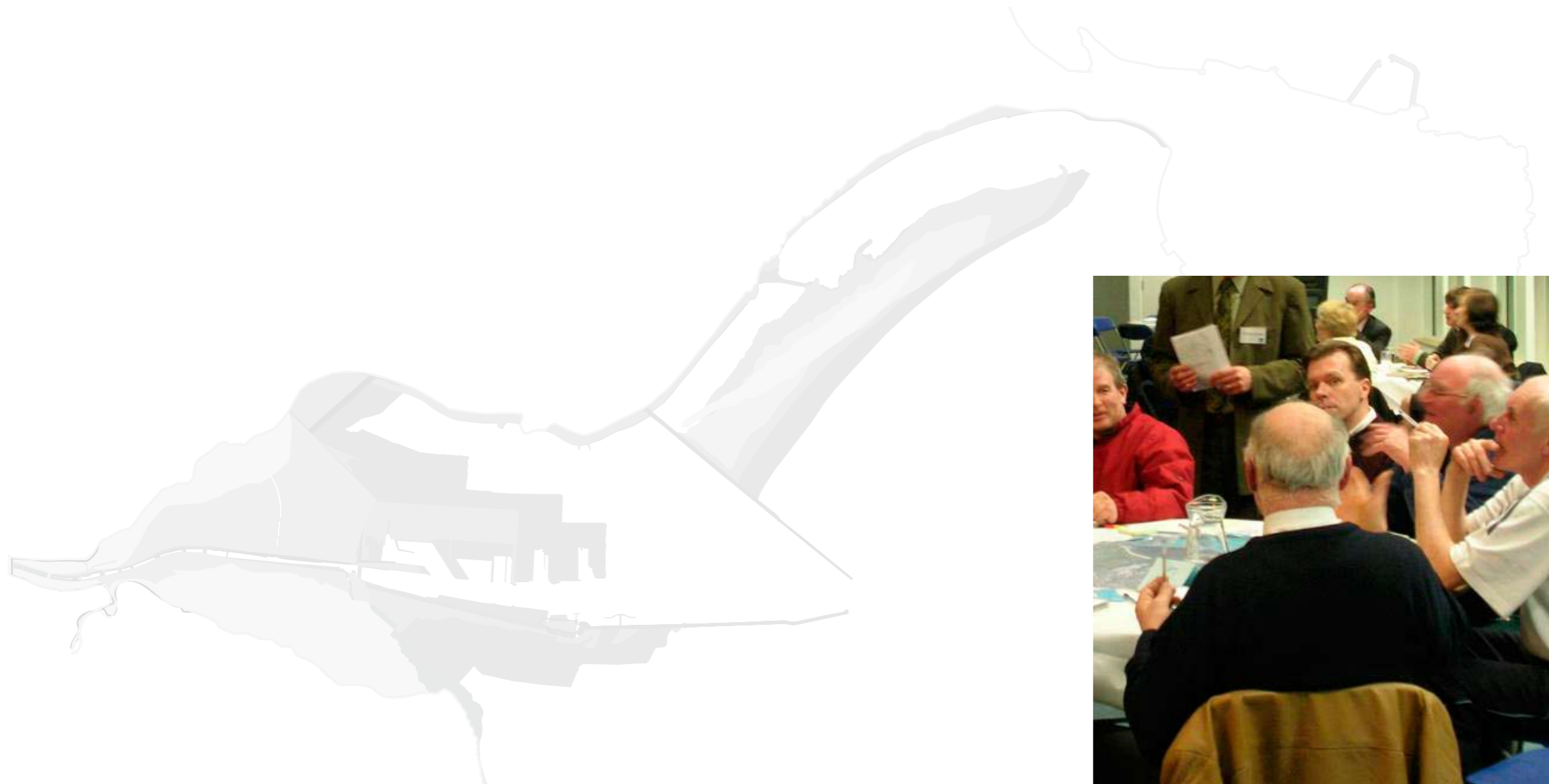
During this study, we assessed the impact of leaving the port undisturbed and a number of potential options for development of the port lands based on partial or complete relocation of the port – the latter a robust and compelling option. Our conclusion is that a sustainable framework for the future can be established if the futures of the bay, the port and the city are treated as integrated issues. Key elements to success are:

- Governance of the bay and its environs;
- Continued improvements to the ecological health of the bay and its contributing estuaries through protective designations and through active improvement programmes;
- Ability for the port to continue to operate efficiently and grow in a climate of certainty through improved decision making in the planning process; and,
- A joint plan of action for the port area.

By envisioning the future and planning to manage change in a sustainable way, the potential for a new era of dramatic transformation in Dublin Bay and Dublin Port area, built on real and meaningful partnership, is extraordinary.



A VISION FOR DUBLIN BAY MANAGEMENT SUMMARY



I. Stakeholder Engagement

“POLICY H47: The plan shall be prepared following consultation with all relevant stakeholders including recreational users, local community interests and the public.”

Dublin City Development Plan 2005-2011, Dublin City Council, 2005

STAKEHOLDER ENGAGEMENT TIMELINE	
December	<ul style="list-style-type: none"> Dublin Port Company Dublin City Council (DCC) DCC Councillors
January	<ul style="list-style-type: none"> Dublin Port Company Dublin Regional Authority
February	<ul style="list-style-type: none"> Dublin City Council Dublin Chamber of Commerce Irish Exporters Association Department of Environment, Heritage and Local Government Resident, Amenity & Environmental NGO Groups <ul style="list-style-type: none"> DCC Councillors IBEC Dublin City Business Association Department of Transport Dublin City, Dun Laoghaire Rathdown, Fingal, Kildare, Meath County Managers
March	<ul style="list-style-type: none"> Dublin City Council Dublin Port Company Forfas
April	<ul style="list-style-type: none"> Dublin City Council Dublin Transportation Office Railway Procurement Authority Dublin Docklands Development Authority <ul style="list-style-type: none"> Dublin Port Company Resident, Amenity & Environmental NGO Groups Commerce Groups, Government Departments and Transport Organizations
May	<ul style="list-style-type: none"> Dublin City Council Dublin Port Company ESB

Our approach to this study sought to build trust and shared commitment in the search for a vision and common ground to enhance and preserve Dublin Bay, by combining objective data, meaningful dialogue and transparent analysis.

Recognising the extensive prior works undertaken by a range of stakeholders, our research and analysis considered the full measure of city, regional and national policy, regulations, and guidance documents, and also included numerous reports, studies, submissions and other documentation created by active and interested stakeholders on this contentious issue.

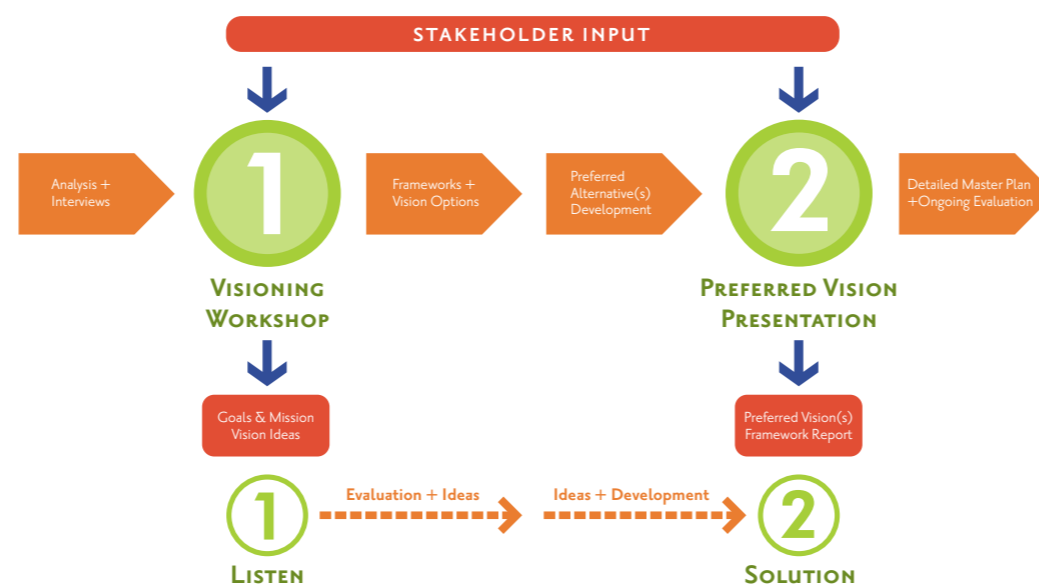
In turn, a two-phase approach to stakeholder participation was adopted; its nature and extent over the course of this seven-month study is depicted by the adjacent diagram and the summary of stakeholder values on the next page.

In the first phase, the remit of the study was explained and stakeholders were encouraged to define what they value most about Dublin Bay and to provide their perspective on current and future policies. Whilst serving as an introduction to the study process, this first phase facilitated the collection of a wide-range of opinions, policies and approaches to a resource of mutual interest. Verbal and written inputs informed the thinking that underpinned the development of possible future scenarios for the bay and port area.

In the second phase, a range of scenarios for the port area were presented to stakeholders, as it is widely acknowledged and understood that the evolution of Dublin Port is central to the future shape and character of the bay. Open discussion involved stakeholders with varied interests where possible to foster appreciation of the depth and complexity of issues and perspectives. Written submissions were also received.

This degree of stakeholder consultation, interaction and participation assured a thorough and critical input into this process. The result was an emphasis on integrated thinking towards a coherent strategy for sustainable development of Dublin Bay and Dublin Port area as a multifaceted resource connecting the land and the sea, strengthening the economic foundation of the city, enriching quality of life, and protecting the natural and built environment.

In total, 3 Local Authorities, 3 Government Departments, 10 organisations representing commerce, transport, heritage and energy interests, 34 residential groups, 10 environmental non governmental organisations and 10 amenity groups were engaged in the stakeholder process, 23 meetings were held and 19 submissions were received for this study towards the development of a framework for the future strategic role of Dublin Bay and Dublin Port area as a multifaceted resource.



A VISION FOR DUBLIN BAY PROCESS

Stakeholder Engagement





“The uncertainty surrounding the future of the port is a negative impact on our business interests.”

- Liam Lacey, Managing Director of Irish Continental Group's Container & Terminal Division, IBEC Stakeholder Meeting, 7th February 2007

“Dublin Port is the country's premier port in terms of throughput and turnover and, as such, is of vital strategic importance to the economy.”

- Department of Transport Submission to the Study.

“Dublin Bay should be designated as a National Park.”

- Joe Nolan, Dublin Bay Watch, Second Residential Groups, Amenity Groups and Environmental NGO Stakeholder Meeting 25th April 2007

“We have not lent our support to any particular one of these proposals [visions for the future of Dublin Port] at this time. Rather, our sole concern at present is ensuring that the complex issues surrounding Dublin Port and Bay Area are resolved in an informed, transparent and objective fashion.”

- Letter to the Taoiseach, Dublin Chamber of Commerce.

A VISION FOR DUBLIN BAY CONSULTATIONS

Stakeholder Engagement

	STAKEHOLDER	STAKE	POLICY/STATED OPINION
DUBLIN CITY	DUBLIN CITY COUNCIL	Local authority, responsible for management & governance of the city of Dublin.	Arising from the City Development Plan 2005-2011 agreed by the elected representatives, Dublin City Council initiated this study as the first stage in the development of a framework for the future strategic role of Dublin Bay and Dublin Port Area as a multifaceted resource. The City Council would like to envision the future of the Bay incorporating economic, recreational and environmental factors, and also progress issues surrounding the future of the port.
	DUBLIN PORT COMPANY	Private limited company wholly owned by the state with a mandate to facilitate the flow of goods, passengers and information through Dublin Port.	Would like a resolution to the current discussion about the future of Dublin Port and the proposed 52 acres to continue to operate (and expand) under its commercial mandate.
	DUBLIN DOCKLANDS DEVELOPMENT AUTHORITY	Created to lead a major project of physical, social and economic regeneration in the East side of Dublin.	Outlined their experience to date of Docklands regeneration.
	LOCAL RESIDENT GROUPS, LOCAL RECREATIONAL/ AMENITY BODIES	Represent residents and recreational/amenity users of the Bay in Dublin City.	Would like a body set up to govern Dublin Bay and ensure its unique character and natural beauty are preserved into the future. Would like to see the whole of Dublin Bay designated as a single entity for protection. Concerned about a number of issues including the proposed reclamation of 52 acres, siltation around Bull Island, rising sea levels, climate change, and uncontrolled piecemeal development.
	PRIVATE BUSINESS INTERESTS IN PORT AREA	Ownership of businesses located in Dublin Port estate.	Irish Exporters Association: Seaports are essential to the export industry. Dublin Port is an effective port providing efficient trade and must not be restricted.
GREATER DUBLIN AREA	GREATER DUBLIN STRATEGIC DRAINAGE STUDY	Project led by Dublin City Council to examine regional drainage infrastructure.	Noted that Ringsend Wastewater Treatment Works is at capacity. Re-development of Dublin Port lands for residential use was not considered in study, and would raise significant capacity issues
	DUBLIN TRANSPORTATION OFFICE	Government agency which provides transport and land use advice to organisations operating in the Greater Dublin Area	Prefer a strong bias towards public transport in any proposals for high density development in the city. Noted that several existing projects will cater for planned needs in the area.
	DUBLIN CHAMBER OF COMMERCE	Represents business interests of over 1400 companies in the Greater Dublin area.	Concerned at the lack of certainty and clarity regarding the future of Dublin Port and wish to see the the complex issues resolved in an informed, transparent and objective fashion.
	DUBLIN REGIONAL AUTHORITY	Promotes co-ordination, co-operation and joint action among the public services and local authorities and comprises elected representatives from the four Dublin Local Authorities	Prepare the Regional Planning Guidelines, which implement the National Spatial Strategy in the Region, Proposed the creation of a Dublin Bay Association. Lead the implementation of the Sutton to Sandycove (S2S) Cyclepath project.
	DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL, FINGAL COUNTY COUNCIL	Local authorities responsible for management & governance of Dublin Bay to the south and north of the functional area of Dublin City Council respectively.	Both are involved in protecting and improving areas of environmental designation in their respective areas of the bay. Fingal County Council support the development of Integrated Coastal Zone Management initiatives. Dun Laoghaire Rathdown County Council intends to implement the recommendations of their Booterstown to Sandycove Coastal Plan for amenities and extend it to the county boundary at Bray.
	RAILWAY PROCUREMENT AGENCY	State agency established to provide infrastructure for Light Rail and Metro Projects.	Believe that Luas will have sufficient capacity to cater for increased development in port lands. Luas line extension CI (which connects Connolly to the Point Depot) will have a maximum capacity of 6,000 persons per direction per hour. Construction is expected to begin in May 2007 and the opening is planned for December 2009.
NATIONAL	DEPARTMENT OF COMMUNICATIONS, MARINE AND NATURAL RESOURCES.	Government Department responsible for inter alia Coastal Zone Management, Foreshore Administration, Fisheries and Marine Engineering	Responsible for inter alia the Foreshore Administration and the granting of foreshore licences (subsequent to planning permission). Department are commencing a strategic review of the legislative framework, structures, and procedures in place to manage the State owned foreshore with a view towards putting in place a modernised legislative framework and improved systems and procedures for Coastal Zone Management.
	DEPARTMENT OF ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT	Government Department responsible for inter alia environmental improvement and protection of water, atmosphere and heritage, planning, development and Local Government.	Responsible for the implementation of Habitats and Birds directives, and other relevant environmental legislation. Prepared the National Spatial Strategy which aims to stimulate areas outside of Dublin without jeopardising Dublin (Port or Airport). Heritage Section address underwater archaeology issues.
	DEPARTMENT OF TRANSPORT	Government Department responsible for inter alia national ports policy and for facilitating the provision of adequate port capacity to serve the growing economy.	Under the Harbours Acts, the Minister approves any significant commercial proposals and developments for the semi-state ports. Dublin Port is the country's premier port in terms of throughput and turnover and, as such, is of vital strategic importance to the economy. The Department believes that Dublin Port will continue to play a vital strategic role in the national transport chain for the foreseeable future. The Department has no proposals to relocate Dublin Port. A Ports Capacity Study, commissioned by the Department and carried out by Fisher Associates, proposed a number of measures to the current capacity problem in the Greater Dublin Area. DoT will shortly initiate the comprehensive study of the role of Dublin Port mandated by the NDP, taking into account, inter-alia, this DCC study.
	ESB	State electricity company with major infrastructure located on Poolbeg peninsula.	Note that the power generation and transmission infrastructure on the Poolbeg peninsula is of critical importance to the city of Dublin. Re-development of the port lands for other uses must consider interaction with the ESB lands and may require relocation of ESB infrastructure on north port lands.
	IBEC	The umbrella body for Ireland's leading industry groups and associations	Welcome debate to move towards a solution and stated that any option is preferable to a "do nothing" scenario. IBEC also noted that current uncertainty surrounding the port is damaging to commercial activity.
	THE HERITAGE COUNCIL	Statutory responsibility to propose policies and priorities for the identification, protection, preservation and enhancement of natural heritage.	Seek greater recognition of Ireland's maritime heritage and the significant role heritage can play in the development of Ireland's marine and coastal resources. (Conserving Ireland's maritime Heritage, Aug 2005).



A VISION FOR DUBLIN BAY STAKEHOLDER POSITIONS

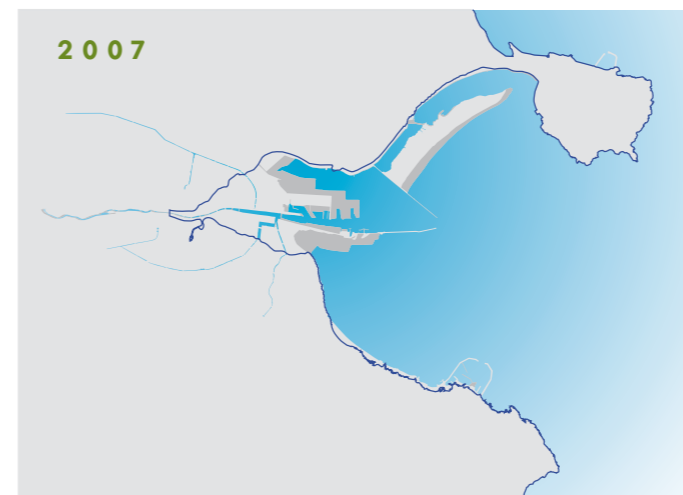
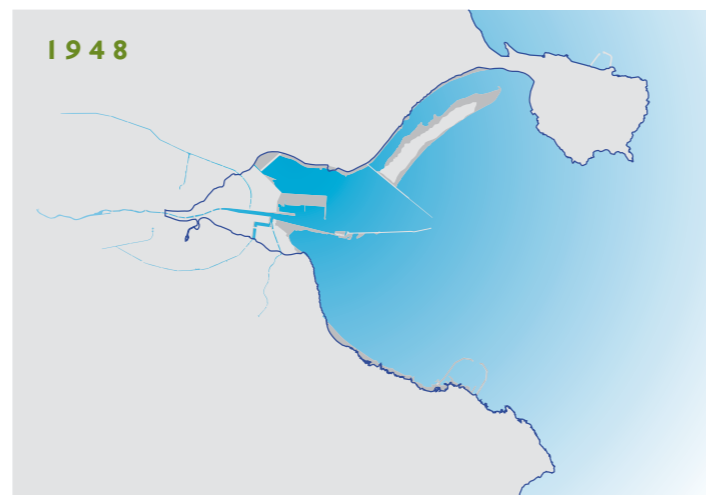
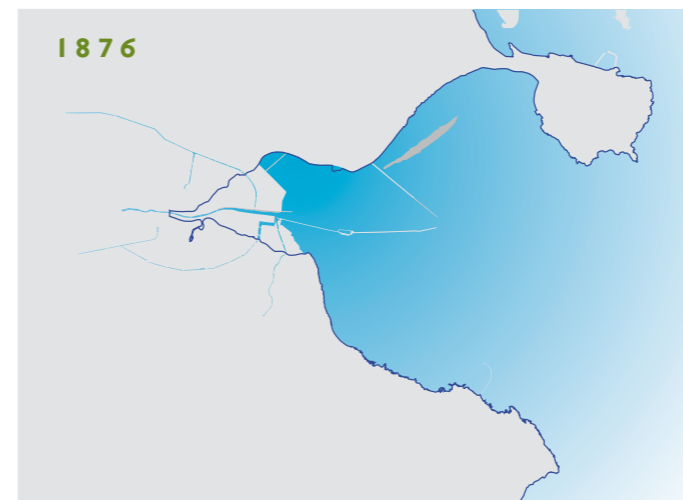
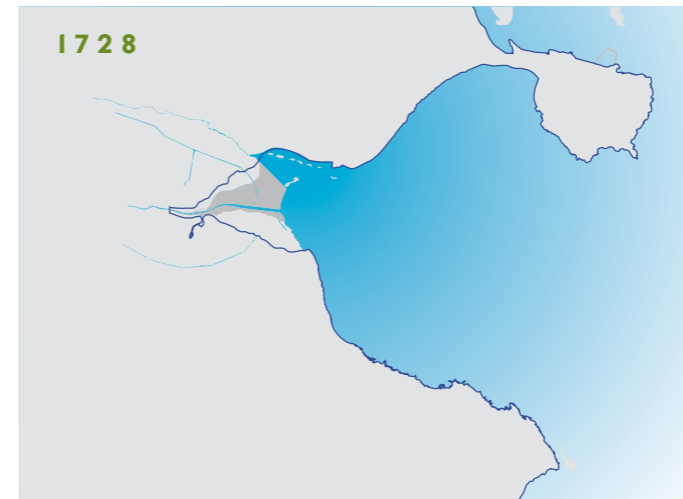
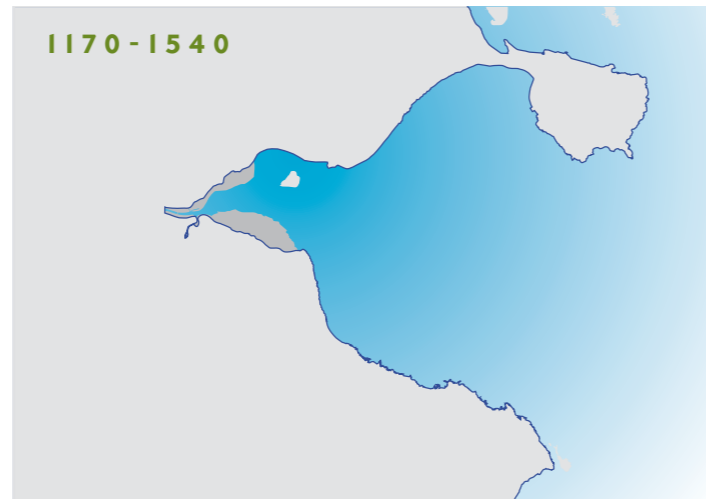
Stakeholder Engagement



2. Baseline Analysis

“An analysis of the bay area, including port lands, as an economic, amenity, recreational, environmental and ecological resource for the city ...”

- Dublin City Council, 28th July 2006



The bay has experienced profound change since *dubh linn* was progressively reclaimed from the sea and gave way to Dublin. Many of the 'events' in the history of the bay have been engineered in response to the seafaring trade and on-going livelihood of the city as a commercial port and trade centre. From medieval times through the early 18th century, the configuration of land and water changed where the River Liffey joined tidal waters and silt and sand emptied into the bay, where quays were built for maritime life and marched seaward to meet the demands of the shipping industry.

Construction of the Great South Wall (1715-1730) and the North Bull Wall (1815-1823) resulted in the development of a safe harbour and marked the beginning of more dramatic change in the shape and features of the bay such that the formation of Bull Island was well underway by 1876. This transformation over centuries is overshadowed by the change spanning the last century, with more than 440 hectares of infill since 1925 comprising 250 hectares on the north side and 190 hectares on the south of the River Liffey. Recent events seem a portent of continuing change in the evolution of Dublin Bay. In 2002, the water level in the Irish Sea triggered emergency flood prevention measures in the city. Today, the city is dependent on such local-scale measures to prevent and mitigate flooding; but, if water levels continue to increase these types of solutions will become increasingly difficult to construct and more intrusive to the waterfront.



A VISION FOR DUBLIN BAY EVOLUTION OF THE BAY

Baseline Analysis

Dublin Port – which this year celebrates the tercentenary of the port organisation in 1707 and the 10th anniversary of the Dublin Port Company – exists today by virtue of Dublin Bay, whilst the bay and city owe some of their most valued attributes and resources to the influences and development of the port itself.

For three centuries, this bond has been symbiotic, marked by complex relationships, by change and transformation, by innovation and sometimes contentious development. Much has changed in the last decade – in Ireland and in Dublin, in global trade and in the European Union, in the shipping industry and in port management.

Dublin Port is operated by the Dublin Port Company, a private limited company wholly owned by the state that succeeded the Dublin Port and Docks Board as port manager in accordance with the terms of the Harbours Act, 1996. Its mission is to facilitate the flow of goods, passengers and information through the port and to provide port users with world class facilities and services in a cost-efficient manner.

With limits defined by the Harbours Act, Dublin Port is a vital and commercially viable port, its company employing in excess of 200 people and managing the second largest industrial estate in Ireland, with an estimated 4000 people employed in the 260-hectare port area.

Currently the largest port in Ireland, it had throughput of 29 million tonnes in 2006, comprising 19 million tonnes of imports and 10 million tonnes of exports that represent 42% of the gross domestic product exported by Ireland. In addition, 75 cruise ships docked at Dublin Port

in 2006, bringing an estimated €50 million to the local economy.

The level of throughput has nearly doubled in the last 10 years, from 15 million tonnes in 1996, despite a reduction in port estate. This growth occurred while the €751 million Port Tunnel, designed to facilitate the transit of goods and alleviate traffic congestion in the city centre, was built.

Port investment and operating costs are funded from revenue since Irish and EU subsidies have declined and government port policy is aimed at promoting port competition and efficiency, and investment in port projects of national significance through public-private partnerships.

The National Development Plan (2007-2013) is “to undertake a comprehensive study of the role of Dublin Port, taking account of locational considerations, in the context of overall ports policy on the island of Ireland, wider transport policy, urban development policy, the National Spatial Strategy and national economic policy. This review will take account of the findings of the study on the role of Dublin Bay and the Dublin Port Area commissioned by Dublin City Council”.

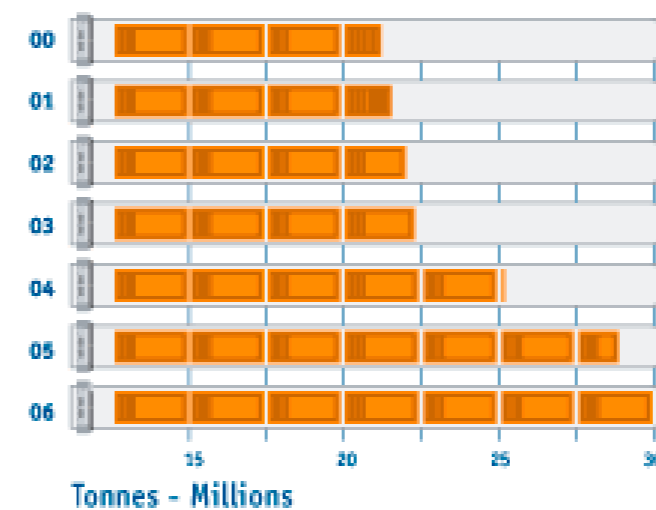


The highlighted areas are port-owned lands

2006

Total Tonnage	29m tonnes
Imports	19m tonnes
Exports	10m tonnes
Ro Ro	693,000 units
Lo Lo	675,000 TEU's
Liquid Bulk	4.2m tonnes
Dry Bulk	2.3m tonnes
Break Bulk	80,000 tonnes
Trade Cars	120,000
Passenger Nos.	1.1m
Tourist Cars	245,000

TONNAGE THROUGHPUT 2000-2006



Source: Dublin Port Company



A VISION FOR DUBLIN BAY DUBLIN PORT

Baseline Analysis



A 'necklace of villages' adorns the water's edge of Dublin Bay – from Howth to Dun Laoghaire, Booterstown to Raheny, Sutton to Sandymount, Merrion to Clontarf, Kilbarrack to Ringsend, Irishtown to Dollymount, Marino to Blackrock.

More than 150,000 Dubliners live and work in these coastal urban villages, and it is their fortune to be part of the city's 'window' to the bay, to breathe the natural grandeur of the sea, to enjoy the bulls, the washes, the hillsides and the cliffs that characterise Dublin Bay.

The history of these urban neighbourhoods is intertwined with their character, from the marker on the promenade in Clontarf that recalls the site of the epic battle of its name in 1014, to the first lifeboat placed at Howth by the Dublin Ballast Board in 1817, from the point where ships once docked in Ringsend, to the birthplace of W.B. Yeats in Sandymount, one of the village settings of Ulysses.

Water forms some of the most unique attributes of this world-class city; the Liffey, though it is overrun by cars, buses and trucks; the Royal and Grand Canals, today a mere semblance of the once bustling trade waterways they once were; the Dodder and Tolka rivers; the inner bay, created by the construction of the Great South Wall and the Bull Wall, which manage the flow of water from the rivers to the sea and ensure passage for the trade ships which today still serve Dublin and Ireland writ large.

A VISION FOR DUBLIN BAY NECKLACE OF BAY VILLAGES

Baseline Analysis



AMENITIES

- Blue Flag beach at Seapoint
- ISA Affiliated Sailing Clubs (8 in total throughout the Bay)
- Canoeing/Kayaking Clubs (about 12 in the Dublin Area)
- Rowing Clubs (approx. 7 in the area)
- Sea Scouts (Dun Laoghaire and Dollymount Strand)
- Scuba Diving, Kite Surfing and Windsurfing
- Sea – Angling
- Walking/Cycling along the coast
- Golf at the two courses on Bull Island
- Summer Camps for children

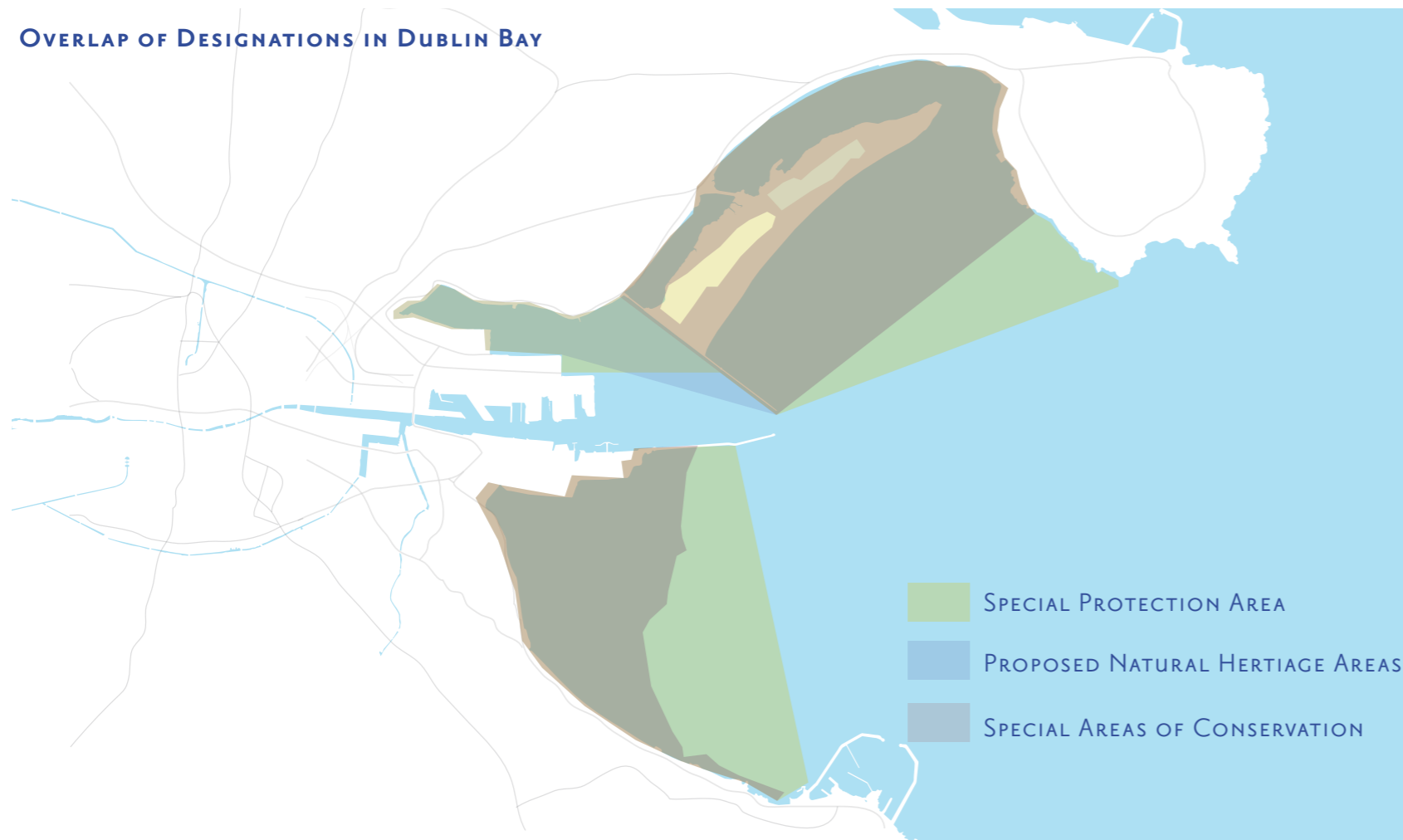
While the sense of interaction with the city’s water environment and ‘inner bay’ is more modest than one might expect, the intense urban development of the coastline around Dublin Bay has resulted in more amenity use, especially in those areas where access is facilitated, accompanied by significant open spaces. Within a 20-minute walk of the water’s edge are no less than 20 urban parks, oases of green space. The location of water activities varies, but typically they are in the North and South Bay as only limited sailing, walking and canoeing/kayaking activities occur within the Liffey estuary.

Throughout the year significant numbers of people use the amenity of the bay, particularly at Howth Head, Bull Island, Clontarf, Sandymount, Dun Laoghaire and Seapoint, the latter attracting very large numbers of visitors to its bathing beach, awarded Blue Flag status by the International Jury for compliance with 29 criteria for water quality, environmental management, safety and services, and environmental education and information.

According to the EPA 2006 Report on Bathing Waters, Seapoint, Sandymount Strand and Merrion Strand met both EU Guideline and Mandatory water quality standards, while Dollymount Strand met EU Mandatory water quality standards. This report underscores the reversal in the historic trend of poor and deteriorating water quality in the rivers, estuaries and bay attributable to pollution, and that improvements in overall conditions have been substantial.

**A VISION FOR DUBLIN BAY
OPEN SPACE LINKAGES TO BAY**

OVERLAP OF DESIGNATIONS IN DUBLIN BAY



“Our bay mirrors us. It reflects our lives on it and on its shores. We each have one. And whenever we look out at our bay, we see ourselves.”

A Guide to Dublin Bay: Mirror to the City, 2006



Dublin Bay, a unique geomorphological feature in Ireland, possesses environmental and ecological resources of global significance. Special status accorded by two EU directives applies to significant parts of Dublin Bay:

- “Special Protection Areas” (SPA) under the EU Birds Directive (79/409/EEC) are designated at the North Bull Island and the Sandymount Strand/Tolka estuary, which requires long-term protection and conservation of all bird species naturally living in the wild within the territory of the EU, and,
- “Special Areas of Conservation” (SAC) under the EU Habitats Directive (92/43/EEC) are North Dublin Bay and South Dublin Bay.

By virtue of these designations, these areas constitute part of the network of protected sites throughout the EU known as Natura 2000 – the purpose of which is to preserve biodiversity by promoting the conservation of natural habitats and habitats of wild flora and fauna, while also taking into account the social, economic, and cultural requirements and specific characteristics of the EU Member States.

In addition, the 1,436-hectare Bull Island and 654-hectare Sandymount Strand/Tolka estuary are designated as wetlands of international importance under the 1971 Ramsar Convention, which came into force for Ireland on 15th March 1985. Bull Island was listed on 25th October 1988. The Sandymount Strand/Tolka estuary was listed 11th June 1996.

The Ramsar Convention requires Ireland to “promote the wise use of all wetlands within [its] territory through ... national land-use planning, including wetland conservation and management; promote training in wetland research, management and wise use; [and,] consult with other Parties about the implementation of the Convention, especially with regard to trans-frontier wetlands, shared water systems, shared species, and development projects that may affect wetlands”.

Finally, a 1,008-hectare portion of North Bull Island is also a UNESCO Biosphere Reserve, established as such in 1981 and the world’s only such site in a capital city. This status acknowledges the island as “significant from a conservation perspective since it supports well-developed salt marshes and dune systems displaying all stages of development from the earliest phase of colonization to stable and full maturity.”

Together, these overlapping designations afford environmental protections to more than half of the bay area from Drumleck Point in Howth to the western side of Dun Laoghaire Marina and west to Dublin Port and the shoreline.

A VISION FOR DUBLIN BAY DESIGNATIONS

Baseline Analysis



3. Vision, Option and Analyses

“[T]he aim of the study is to develop a long-term strategy for the development of the bay area as a resource. It is open to consultants to examine the merits or otherwise of the existing port facilities being expanded, reduced or relocated over time and their economic impact both positive and negative for the city.”

- Dublin City Council, 28 July 2006

During this study, which has been carried out in alignment with the economic, social and cultural emphasis of the city's strategy and development plan, we examined a range of issues which can be broadly divided into these three categories. However, it is clear that all are interdependent and that the future framework for Dublin Bay requires an integrated blueprint, master plan and civic commitment to deliver on the principle of sustainability.

Consequently, the drivers of our study, underpinning the analysis and decision making process, are focused on the need to:

- Ensure the continued viability of Dublin Port, which is vital to the national and regional economy;
- Facilitate continued development of Dublin, in a sustainable manner for the city and Ireland;
- Improve quality of life, through reduced commuting, more housing and better living conditions;
- Protect and enhance the unique environmental characteristics of the bay; and,
- Provide the whole community with better access to the bay.

Intuitively, some of these drivers would seem contradictory and prone to conflict – a perspective reinforced during stakeholder consultations, with many focussed on their particular interests at the apparent expense of others'. Still, many stakeholders, if not all, also sense an opportunity to embolden the protection and enhancement of the Dublin Bay and Dublin Port area as a multi-faceted resource.

By envisioning the future and planning to manage change in a sustainable way, the potential for a new era of dramatic transformation in Dublin Bay and Dublin Port area, built on real and meaningful partnership going forward, is extraordinary.

Our conclusion -- based on objective data, meaningful dialogue and the transparent analysis that follows – is that a sustainable framework for the future can be established if the futures of the bay, the port and the city are treated as integrated issues. The key elements of this framework need to include:

- Governance of the bay and its environs;
- Continued improvements to the ecological health of the bay and its contributing estuaries through wider protective designations and through active improvement programmes;
- Ability for the port to continue to operate efficiently and grow in a climate of certainty through improved decision making in the planning process; and,
- A joint plan of action for the port area.

We assessed the impact of leaving the port undisturbed and a number of potential options for development of the port lands based on partial or complete relocation of the port. It is clear that the port's operations are vital to the national economy and that there are broad economic benefits to redevelopment, but it is also evident that to achieve sustainable development in the heart of the city and adjacent to the bay will require a radical, integrated and coherent approach.



In our view, if a sustainable development scenario is agreed, then it should take a long-term perspective and challenge the conventions of the way we live in Dublin today. It should incorporate the actions required to meet Ireland's emissions target under the Kyoto Protocol; provide living areas that are viable for families and individuals; address the need for multi-modal public transport, reducing rather than increasing traffic density in the city; develop areas and activities which will attract the population of the city at all times of the day and evening. In short, it should be truly sustainable using technologies and standards that will be relevant in decades to come and not just those that exist today.

The development of Dublin is already occurring; there is a unique opportunity now to guide this change to provide a truly world-class city for future generations. To achieve this will need vision, consensus and determination, but the alternative of piecemeal development would be a poor legacy from this period of prosperity.



A VISION FOR DUBLIN BAY ENVISIONING THE FUTURE

Key factors in considering “alternative futures” are as follows:

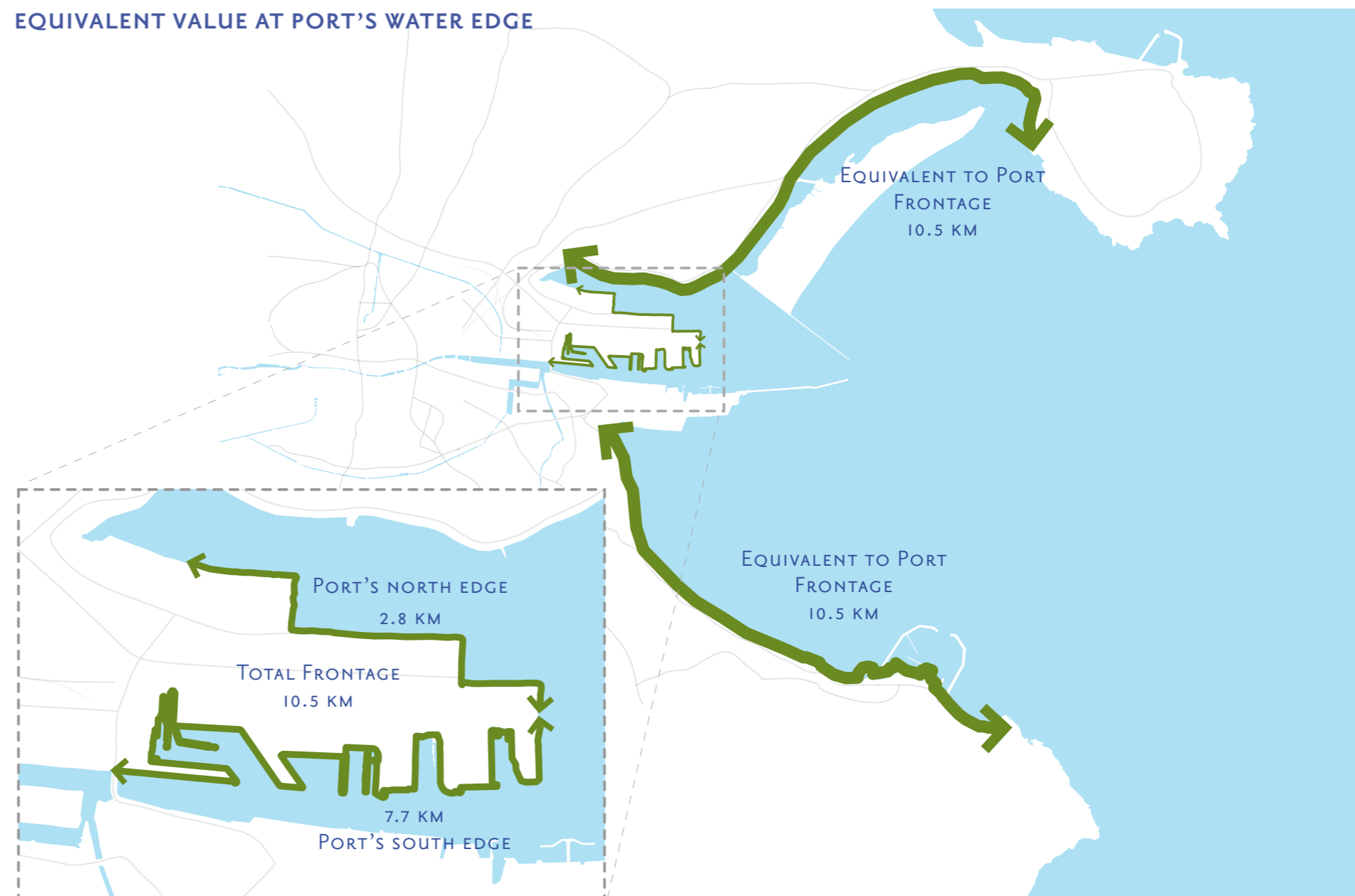
- Ireland’s and Dublin’s economy and population are forecast to grow significantly in the medium to long term.
- Ireland needs port capacity that can handle even higher volumes of trade as average growth is expected to continue at about 4.5% per annum for the next 15 years.
- Dublin needs more housing due to population and economic growth and to prevent urban sprawl. All projections indicate long-term demand for housing and that Dublin will, in the medium term, run out of available development land.
- Additional commercial employment, instead of current industrial employment at the port, can add significantly to economic growth and overall employment in Dublin.
- Land values are high and long-term trends show ongoing demand.

In undertaking cost-benefit analyses on scenarios for the sustainable development of Dublin Bay and Dublin Port lands as a multifaceted resource, an element of reasoned logic had to be applied given the speculative nature of analysing “alternative futures” or “options”. Our assumptions are purposefully conservative to show the minimum level of benefit that one can reasonably expect to achieve.

Climate change mitigation measures, such as barrage and flood defence infrastructure, have intentionally been omitted from the options’ appraisal process because they are addressing different drivers, but they are critically important to the medium to long future of Dublin City.



EQUIVALENT VALUE AT PORT’S WATER EDGE



A VISION FOR DUBLIN BAY RATIONALE FOR CHANGE

PLANNING TO MANAGE CHANGE

Any development plan for a coastal city or other urban water environment, especially a ‘big plan’, needs to be guided by a set of five overarching principles of large-scale design:

- ♦ **Integrate with and enhance what already exists.** Dublin is unique and needs to maintain and build upon its strengths: the photogenic River Liffey and its bridges, the Georgian squares and remarkable urban form of the city centre, Trinity College and its quadrangles, the bay and its special designations and amenity uses, and the attributes of prosperous sea faring trade port;
- ♦ **Emphasize the public environment.** In a development context, the public realm is all too easily forgotten, yet it is the legacy of public spaces in most urban settings that represents the ‘added value’ to be guarded for generations to come;
- ♦ **Learn from precedents.** Past endeavours allow us to adapt good ideas that may be relevant to Dublin and to not repeat mistakes made by others. Amsterdam, Copenhagen and Rotterdam offer model experiences, as do urban waterfronts from Cape Town to New York, Liverpool to Los Angeles, San Francisco to Sydney;
- ♦ **Realize a near-term vision.** Measurable progress towards a long-term vision must be achieved as soon as possible. Small steps that can be taken immediately to advance the future prosperity and quality of life for Dubliners need to be identified and delivered, or else the plan risks being shelved and the process repeated to no avail; and,
- ♦ **Start with a ‘Water Plan’ – not a ‘land plan’.** For Dublin, the strategy to be developed ought to start with water and that corridor which most uniquely characterises Dublin: the Liffey flowing through the port area and into the bay.



ROTTERDAM HARBOUR



AMSTERDAM HARBOUR



COPENHAGEN HARBOUR



BOSTON HARBOUR



SAN FRANCISCO HARBOUR



NEW YORK HARBOUR

RELATIVE SCALE OF DUBLIN HARBOUR

DEVELOPMENT ASSUMPTIONS

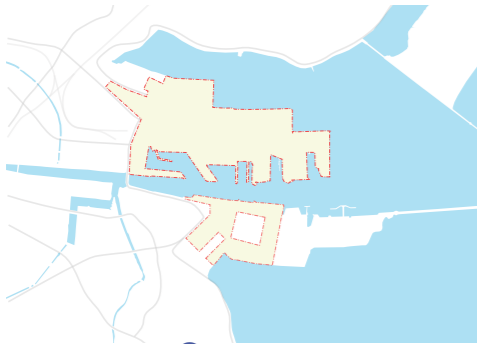
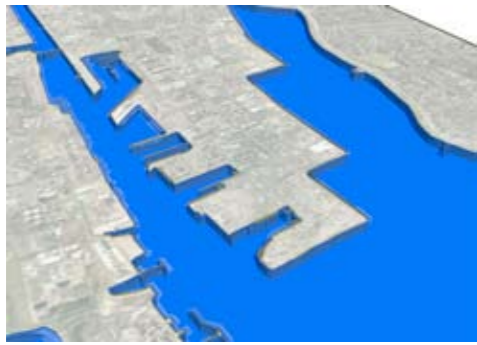
The assumptions that underlie the analysis of development potential on Port lands are based generally on conservative assumptions as well as an understanding of Dublin’s development patterns. In general, a certain percentage of the land area vacated by the port would be released for development, while the rest would be publicly dedicated for streets and open space. The analysis assumes that 50 percent of lands would be available for development parcels and 50 percent for public dedication. Development Parcels could include commercial and residential buildings whilst public dedicated areas could include streets, sidewalks, recreational and amenity areas, community venues, youth centres and civic buildings.

We further assumed that typical city-centre developments achieve densities (conservatively) of about 4 to 6 Plot Ratio (the ratio of the total floor space to the area of the parcel - at a Plot Ratio of 2, the area of the building is twice the area of the parcel). The analysis at individual parcels assumed that building footprints occupy 50 percent of the parcel area, while private open space & parking comprise remaining 50 percent of the parcel area. To achieve a Plot Ratio of 4, the average height of buildings would be 8-storeys – however, individual buildings may range from 3 – to as much as 12 storeys.

The final assumption in this analysis identifies the proportional break-up of uses within the buildings. In successful mixed-use neighbourhoods – which new development at the Port will strive to be – the typical allocation of uses is in this proportion: residential – 70 percent, office – 20 percent, retail – 5 percent and other uses – 5 percent.



A VISION FOR DUBLIN BAY MANAGING CHANGE



OPTION 1
NO CHANGE



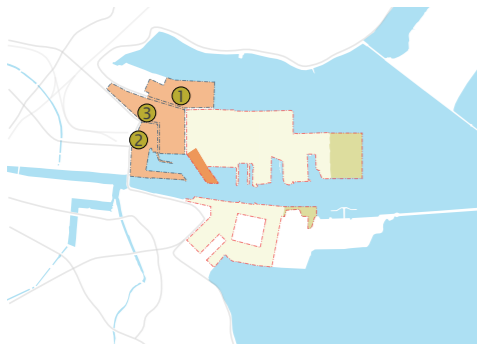
OPTION 2
EXTENSION TO EAST WALL
BUSINESS PARK



OPTION 3
SMALL LOCAL AREA
DEVELOPMENT



OPTION 3A
VARIATION ON OPTION 3 WITH
RECLAMATION



OPTION 4
MINOR PORT RELOCATION



OPTION 5
50% PORT - 50% NEW, PARTIAL
PORT RELOCATION



OPTION 6
PARTIAL PORT RELOCATION



OPTION 7
100% NEW DEVELOPMENT, FULL
PORT RELOCATION

In total, seven different options were modelled initially – an additional scenario, Option 3a, was studied at the suggestion of the Dublin Port Company. Each of these options studied different scenarios for redevelopment of port lands whilst taking into account projected port cargo growth. Option 1, where the existing port area remained unchanged, was used as the starting point. Successive options increased the area of land that could be redeveloped through the consolidation and relocation of port operations and by land reclamation. The options were evaluated on the basis of the following criteria: Open Space, Public Access to Water, Economic Benefits, Environmental Impacts, Image of the City, Lifestyle, and Diversity. The evaluation narrowed the study to four options. Broadly, these four fell into three categories that represented the full range of future scenarios.

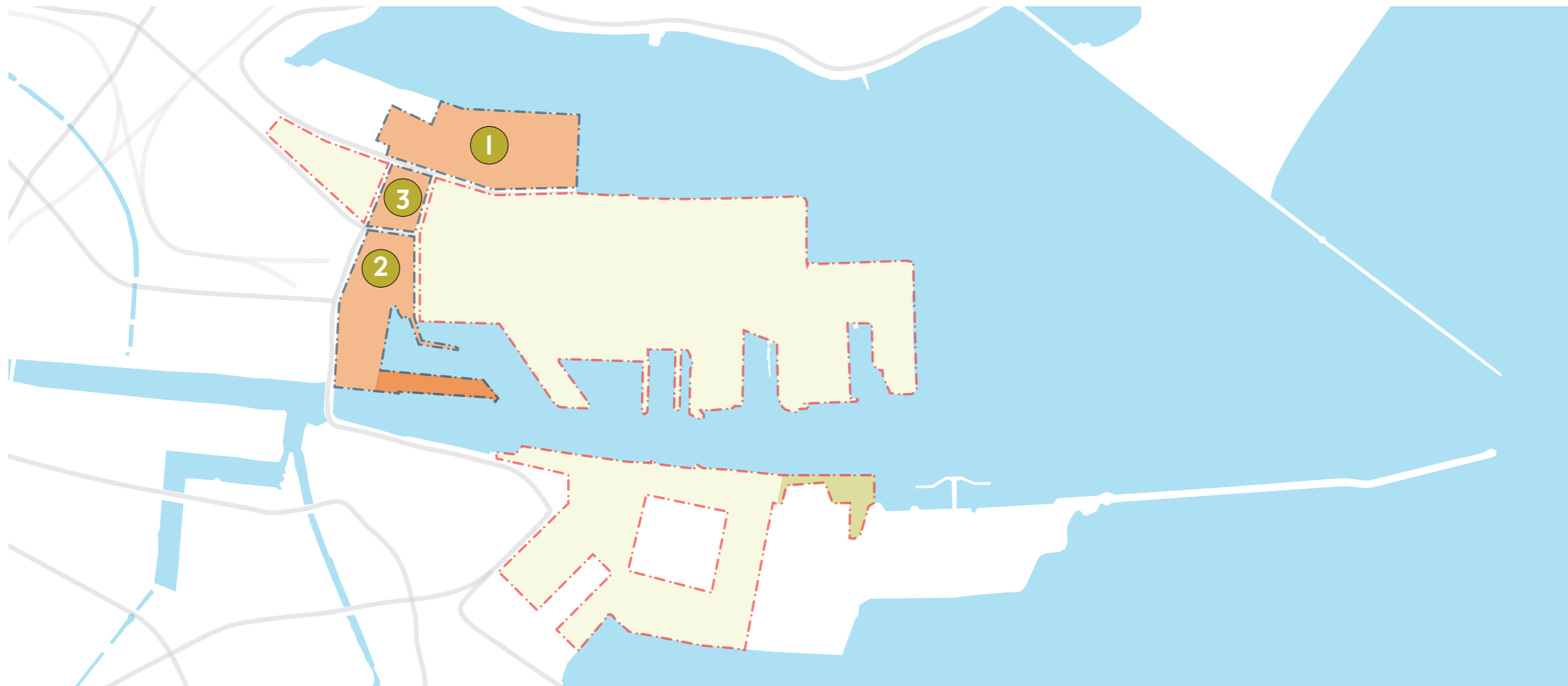
SMALL LOCAL AREA DEVELOPMENT (OPTIONS 3 AND 3A): This would largely retain the Port and be a “traditional” development, economically neutral, and home to at least 12,000 residents.

50% PORT- 50% NEW (OPTION 5): Oil-related uses will be relocated and port lands expanded. The economic benefits are moderate and the new developments will be home to at least 32,000 residents.

ALMOST 100% NEW DEVELOPMENT (OPTION 7): Port is entirely relocated except for a new cruise terminal. A new ‘City Quarter’ is created on old Port Lands. The development is economically very beneficial and accommodates at least 55,000 new residents.



A VISION FOR DUBLIN BAY OPTIONS ANALYSIS



OPTION 3 - SMALL LOCAL AREA DEVELOPMENT - OPTIMISE OPERATIONS, FACILITATE CRUISE, CLOSE DRY BULK OPERATIONS

Primarily, to maximize the potential gain possible, any re-development of the port lands should proceed sequentially from the existing port boundary with the city, incorporating areas currently devoted to container storage, dry bulk operations and the P&O Ro-Ro terminal. This option suggests a 3 phase development scenario (Zone 1 in years 5-7, and Zone 2 and 3 in years 7-9). Additionally, reclamation of 6.5 hectares on the southern bank occurs in years 4-6 and the Cruise ship terminal is developed in years 7-8.

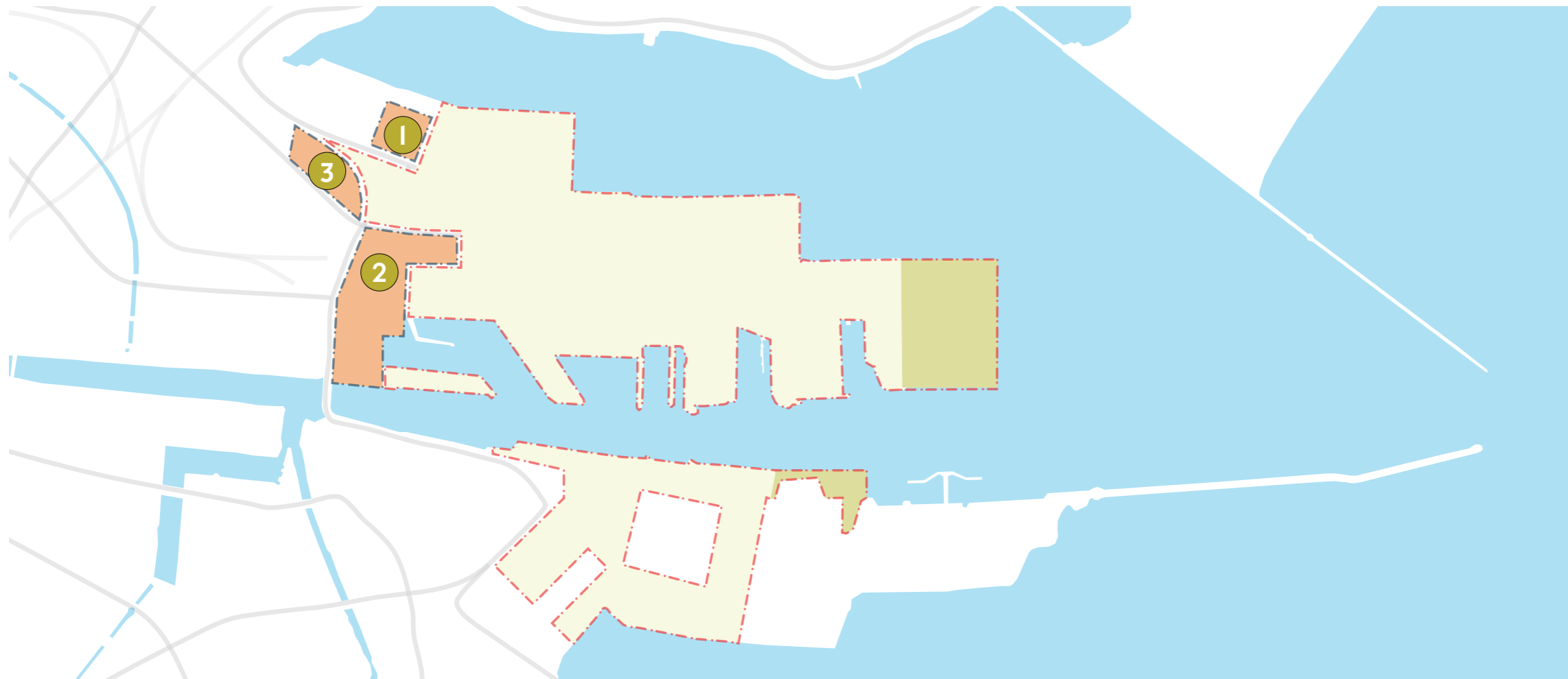
Option 3 assumes that all of the dry bulk trade through the port is relocated to other existing ports (although there is some scope for part of the existing trade to be retained on the proposed southern reclamation). This would then allow the relocation of the existing P&O operation, thus releasing zones 2 and 3 for redevelopment, although there would also be a requirement for the 'Irish Shell' oil tanks to be moved to ensure the effective redevelopment of areas 2 & 3. However, it must be noted that this option is only a short term measure. Without the reclamation on the northern side of the port (considered in later options), the port will not be able to accommodate the projected increases in both Lo-Lo and Ro-Ro volumes in the long term without investing in expensive infrastructural works.



-  FINAL FOOTPRINT OF PORT
-  DEVELOPMENT ZONES
-  RECLAIMED LAND
-  CRUISE SHIP TERMINAL

- Final footprint of future Port: **205.91 HECTARES**
- New development on Port land: **50.59 HECTARES**
- New floor space developed: **1,264,750 SQM**
- New housing units: **5,902 UNITS**
- New office space: **252,950 SQM**
- New retail space: **63,238 SQM**

A VISION FOR DUBLIN BAY
OPTION 3



OPTION 3A – VARIATION ON OPTION 3 - OPTIMISE, OPERATIONS, FACILITATE CRUISE, CLOSE DRY BULK OPERATIONS, RECLAIM LAND

This option is a variation on Option 3 and is influenced by the need to provide land to meet the long term development of the port. Dublin Port Company already proposes to reclaim 21 ha in the bay area.

It is proposed that the redevelopment of zone 2 will be achieved through construction of a suspended slab over the existing P&O terminal which would remain operational.

As with Option 3, the relocation of the 'Irish Shell' oil tanks would also have to be carried out to permit the effective redevelopment of areas 2&3. The final footprint of land under Port operations will cover 263.15 hectares.

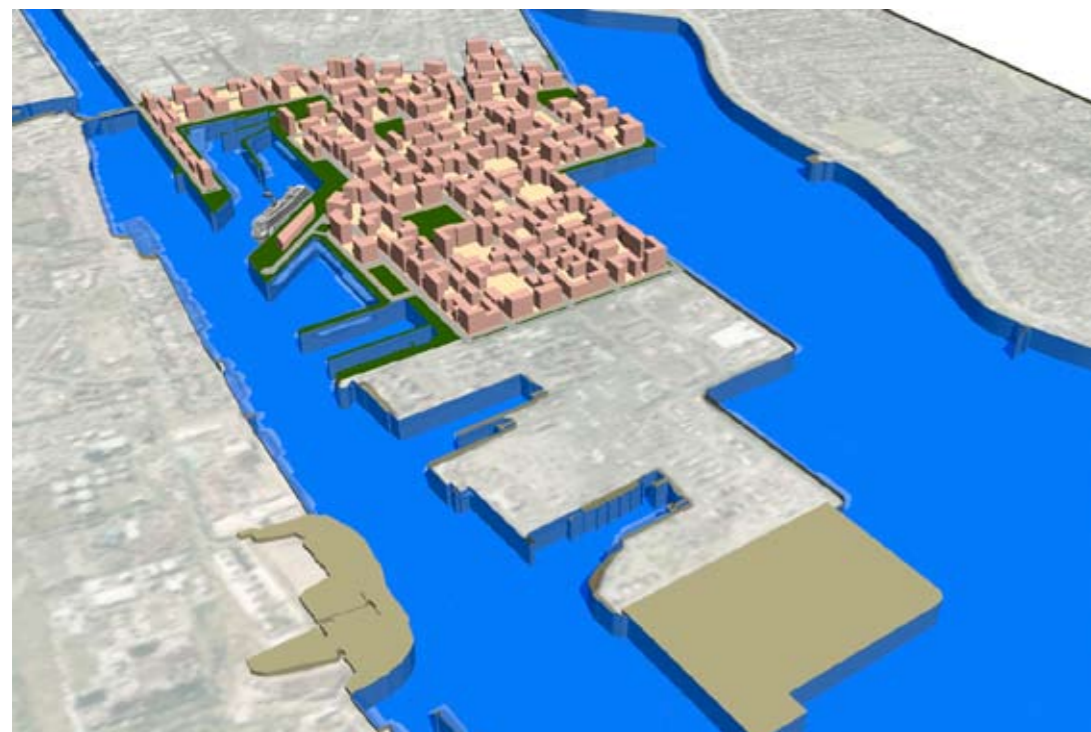
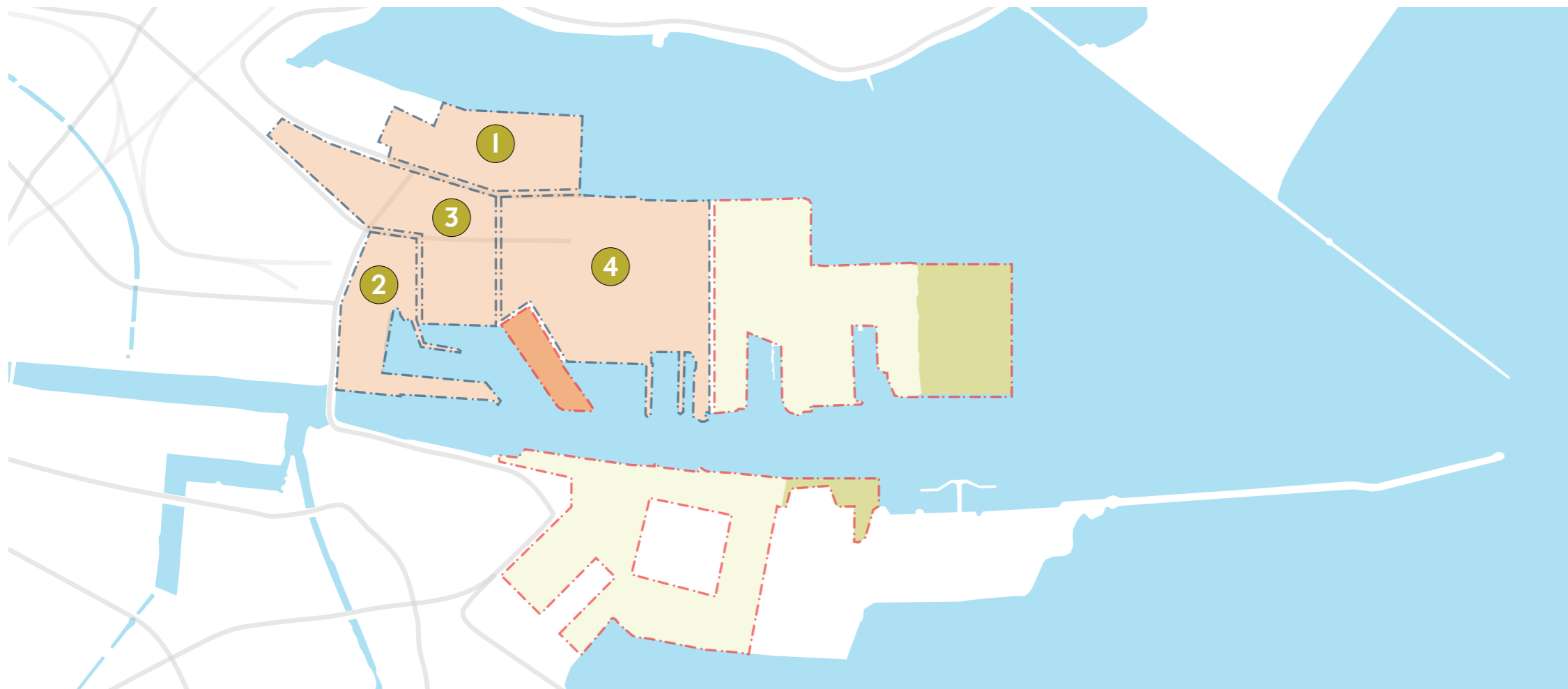


- FINAL FOOTPRINT OF PORT
- DEVELOPMENT ZONES
- RECLAIMED LAND
- CRUISE SHIP TERMINAL

- Final footprint of future Port: **263.15 HECTARES**
- New development on Port land: **24.85 HECTARES**
- New floor space developed: **761,750 SQM**
- New housing units: **3,555 UNITS**
- New office space: **152,350 SQM**
- New retail space: **38,088 SQM**

A VISION FOR DUBLIN BAY

OPTION 3A



-  FINAL FOOTPRINT OF PORT
-  DEVELOPMENT ZONES
-  RECLAIMED LAND
-  CRUISE SHIP TERMINAL

- Final footprint of future Port: **141.19 HECTARES**
- New development on Port land: **136.31 HECTARES**
- New floor space developed: **3,407,750 SQM**
- New housing units: **15,903 UNITS**
- New office space: **681,550 SQM**
- New retail space: **170,388 SQM**

OPTION 5: 50% PORT – 50% NEW -
OPTIMISE OPERATIONS, RECLAMATIONS,
CLOSE DRY BULKS, RELOCATE OIL STORAGE

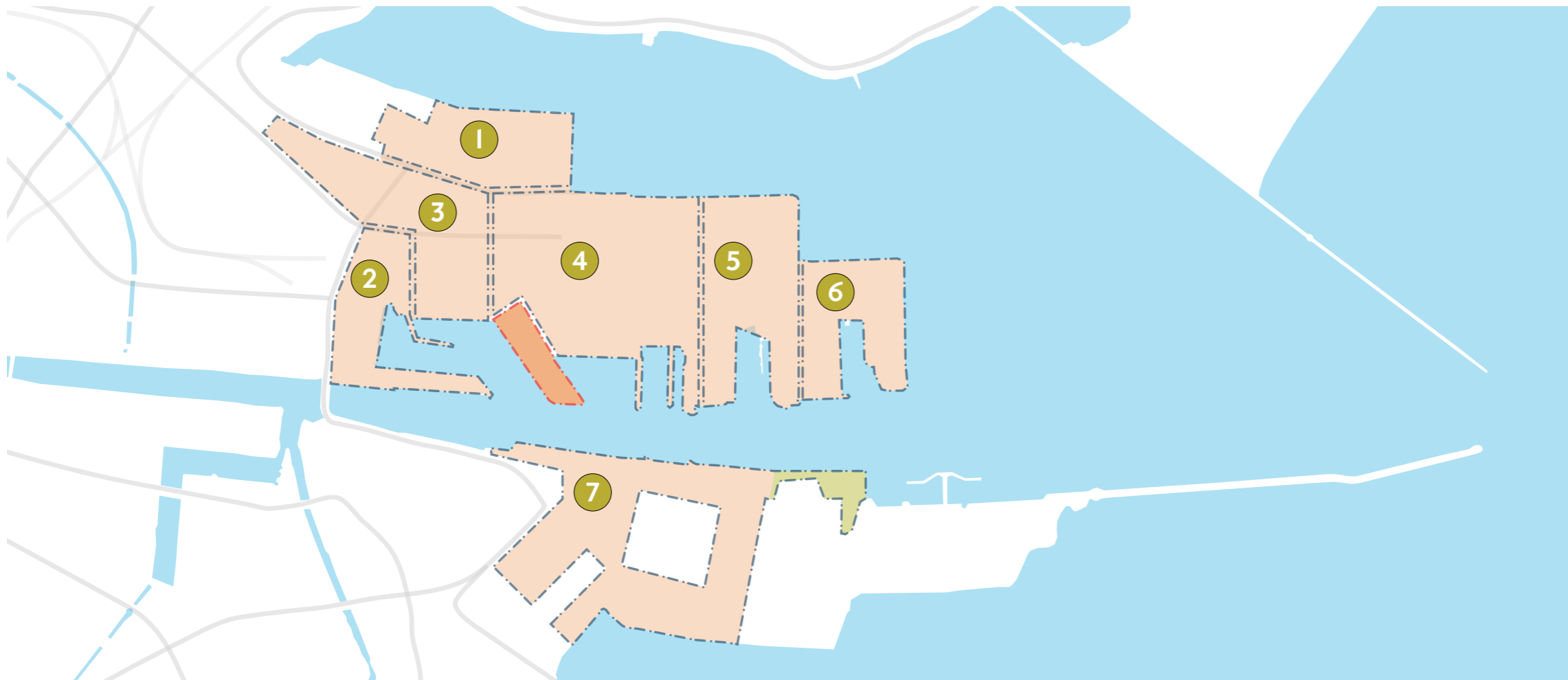
The “Seveso” zones associated with the oil terminal would inhibit any further redevelopment of the port land. The facility is a relatively complex system of distribution pipes and storage tanks and is served by three dedicated berths that handle a variety of products including LPG, oil, chemicals and molasses.

Whilst the remote storage of all of these products is not thought to be feasible, the storage space on the port estate could be reduced by pumping some products, e.g. fuel oils to a remote site. This would potentially release area 4 for redevelopment, although the scope of such development would be constrained by the Seveso restrictions imposed by the LPG storage and the need to retain the liquid bulk jetties. The safety and environmental challenges facing this option are considerable and a more detailed assessment would have to be made before its feasibility could be confirmed.

The planned redevelopment would occur in four phases (Zone 1 in years 9-12, Zone 2 in years 11-13, Zone 3 in years 13-15, and Zone 4 in years 16-18). It is envisioned that over 3 million sqm of new floor space would be developed, including almost 16,000 new housing units. However, it is anticipated that the complexity and nature of this option would significantly delay the planning and redevelopment process.

A VISION FOR DUBLIN BAY
OPTION 5

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OPTION 7: 100% NEW DEVELOPMENT
 - RELOCATE EVERYTHING EXCEPT CRUISE LINERS

In recognition of the conflicting demands made by port growth and redevelopment, this option considers relocating all of the port operations to an entirely new port. Such a new facility will require a high level of investment in basic infrastructure including a breakwater, berth construction, dredging, landside development, road/ rail access, services and power supplies.

In light of this it is less attractive to relocate only part of the port's operations, although a phased relocation could be possible whereby some operations would be relocated whilst the rest of the new port is being developed. Fundamentally, if a new port was constructed virtually all activity from Dublin Port would eventually transfer to the new site when operational.

A preliminary phase of redevelopment in the vicinity of Alexandra Basin would occur in years 3 – 5. The Port would vacate all lands (except for the Cruise ship terminal) in years 10-12 and this land would be released for development over a 10 year period. At final build-out 259.36 hectares of land would be redeveloped providing almost 6 million sqm of new floor space, including almost 28,000 new housing units.



-  FINAL FOOTPRINT OF PORT
-  DEVELOPMENT ZONES
-  RECLAIMED LAND
-  CRUISE SHIP TERMINAL

- Final footprint of future Port: **18.14 HECTARES**
- New development on Port land: **259.36 HECTARES**
- New floor space developed: **5,959,000 SQM**
- New housing units: **27,809 UNITS**
- New office space: **1,191,800 SQM**
- New retail space: **297,950 SQM**

A VISION FOR DUBLIN BAY
OPTION 7

APPRAISAL METHODOLOGY

To assess which of the options offers the greatest economic benefit, we have carried out an economic option appraisal. This is a dynamic assessment which acknowledges that significant initial capital expenditure is required at the outset of major developments, while generating lasting longer-term benefits.

A financial model was created to measure all quantifiable costs and benefits over a 25-year period. This approach allows a relative assessment to be made between the alternative options in terms of their lifetime cost or benefit. This Cost Benefit Analysis (CBA) yields a Net Present Value (NPV): a single figure giving the current day equivalent value for the 25-year stream of incomes and expenditures. The higher the NPV, the greater the long-term benefit.

This approach is consistent with the Department of Finance's Capital Appraisal Guidance, required by the Council to inform all investment decisions. Wherever possible we have chosen very cautious assumptions to offset the tendency in appraisals of this kind to understate the costs and / or overstate the benefits. This method of counteracting optimism bias is also recommended by the Department of Finance. The key parameters for this appraisal are as follows:

- All reasonably quantifiable aspects of the development are included, with assumptions based on the best available published information or professional judgement. These include:

CAPITAL COSTS

- » Land acquisition and reclamation, both for the new development and new port (where applicable)
- » Planning and construction of the new development and port
- » Decant costs
- » New infrastructure requirements
- » Operating costs
- » Site management
- » Leaseholder compensation

- » Relocation of port staff
- » Foregone tax revenues
- » Operating costs for new on-site businesses

REVENUES

- » Gross value added by new on-site businesses / employment generated
 - » Rate income to City Council from new land use
 - » Land sale
 - » Residual value – the realisable value of the new development at the end of the appraisal period, were the development to be sold-on.
- An allowance has been made for additionality i.e. the extent to which the development is creating new activity, rather than simply replacing activity from other parts of Dublin or other proposed developments.
 - A 25-year timescale has been assumed. This period was selected to incorporate the entire construction phase of the new development (capturing all costs), but limit the period over which future revenues will accrue. This minimises the risk of optimism bias.
 - A discount rate of 5% per annum has been applied to future costs and revenues. Again, this is consistent with Department of Finance guidance to recognise that future expenditure or revenues are valued at a lower rate i.e. a social preference to incur costs later, or receive revenues sooner.

There are however a number of aspects which cannot be reasonably monetised within a financial analysis. These qualitative issues must also be captured in the appraisal, and form a crucial part of the decision making process. These include:

- Environmental impacts
- Social impacts and the quality of public amenities
- Lifestyle
- Image and potential for future growth

- Efficiency of land use and port operations
- The creation of an entirely sustainable city

While these issues cannot be reasonably quantified, it is still possible to make a relative assessment between the options, resulting in an order of preference.

SUMMARY OF APPRAISAL RESULTS

A summary of the appraisal results is presented on the following page. A relative assessment for the impacts of each option is shown across financial and qualitative indicators. This gives an order of preference between the options for each individual criterion. For each indicator, the options have been rated as either:

- High – the option demonstrates the highest relative benefits (or lowest cost)
- Medium – medium benefit or cost
- Low – the option demonstrates the lowest relative benefit (or highest cost)

Each indicator is discussed in further detail below, highlighting the key parameters underpinning the assessment of options.

AMERIKA PLADS, COPENHAGEN: A NEW DISTRICT WITH HOUSING, SHOPS AND BUSINESSES IN THE NORTHERN PART OF THE PORT OF COPENHAGEN



A VISION FOR DUBLIN BAY APPRAISAL OF OPTIONS

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QUALITATIVE CRITERIA	INDICATOR / DRIVER	STATUS QUO: PORT STAYS AT SAME SITE	PARTIAL RELOCATION (OPTIONS 3, 3A AND 5)	FULL RELOCATION (OPTION 7)
Economic	JOBS AND GROWTH (DUBLIN)	Low	Medium	High
	IMAGE OF DUBLIN AS A DESTINATION (INVESTMENT, TOURISM, MIGRANTS)	Low	Medium	High
	DESTINATION OF EXPORTS & IMPORTS	Medium	Medium / High	Medium / High
	TRANSITIONAL COSTS	High	Medium	Low
Efficiency of port operations	ADDITIONAL LAND TO MEET FUTURE GROWTH	Low	Medium	High
	INVESTMENT IN EQUIPMENT AND FACILITIES	Low	Medium	High
	TERMINAL OPERATING PRACTICES / LAYOUT	Medium	Low	High
Market opportunities for the port	IN-COMING CARGO	Low	Medium	Medium / High
	EXPORT GROWTH	Medium	Medium	Medium / High
Social and housing	DEMAND FOR HOUSING	Medium	Medium / High	High
	SUPPLY OF SITES / PLANNING	Low	Low / Medium	Medium / High
	LIFESTYLE / LEVEL OF AMENITIES	Low	Medium	High
	IMAGE OF DUBLIN – NEW DEVELOPMENT	Medium	Low	High
Environmental	ENVIRONMENTAL COSTS	Medium	Medium	Low
	ENVIRONMENTAL BENEFITS	Low	Low/Medium	Medium/High
	SUSTAINABILITY	Low	Low	High
	PORT TRAFFIC	Low	Medium	High



A VISION FOR DUBLIN BAY APPRAISAL OF OPTIONS

ECONOMIC INDICATORS

JOBS AND GROWTH: This indicator is determined by the results of the full cost benefits analysis. The change in land use from port activities to a mixed-use of residential, retail, office and general industrial space allows a more dense employment use of the land. This means that more workers from more productive industrial sectors can occupy the space, generating significant gains for Dublin. At present, Dublin is constrained in its capacity to grow and to generate new employment by a lack of space. Partial relocation of the port releases some space for new employment uses, while full relocation releases more space. The baseline assessment suggests that demand exists to meet this new employment capacity, so the **full relocation (option 7) is the best relative option** – rated high – while the partial relocation releases less space, but still allows expansion, so is rated medium. The status quo with the port remaining on-site means there is no additional capacity for growth, so the option is rated low.

IMAGE OF DUBLIN AS A DESTINATION (INWARD INVESTMENT, TOURISM, MIGRATION): Removal of industrial presence at the waterfront boosts the appearance of the area for tourism and service industry investment. Thus, the partial relocation represents an improvement from the current situation, so it is rated medium. With the full relocation, the scenic waterfront remodel should attract boosted tourism. In addition, the extensive new business district could attract immigration to fill skilled jobs. **The full relocation option is therefore rated high.**

DUBLIN DOCKLANDS



DESTINATION OF EXPORTS AND IMPORTS: Dublin is currently a net importer and 75% of imports stay within 80km of the port on arrival. This suggests the current port location is of value, so the status quo is rated medium benefit. Relocation to a peripheral location could damage or boost the current import profile, depending on proximity to major road and rail infrastructure for distribution. However, a new site could also generate boosted export potential, as current exporters are located outside the city centre and may benefit from improved access. **Both the partial (option 5) and full relocation options therefore offer a marginally improved position for exporters, so are both rated medium / high.**



AMSTERDAM

TRANSITIONAL COSTS: This indicator relates to the relocation or redundancy costs for port workers should the port be relocated. The lag between sale of the current site and completion of the new port may also result in temporary job losses in Dublin. The full relocation is rated low (i.e. highest cost). The partial relocation allows some key workers to remain at the present site, so relocation can be managed to minimise this cost – the options is rated medium. The full relocation involves movement of all current staff, so incurs the highest potential cost. **The status quo therefore incurs no additional cost so is rated high (i.e. lowest cost).**



EFFICIENCY OF PORT OPERATIONS

ADDITIONAL LAND TO MEET FUTURE GROWTH: The current site is highly constrained unless expensive reclamation and dredging takes place. The status quo is therefore rated low. Partial relocation and removal of some functions alleviates the constraint at the current site, though layout may not be optimal, while a new site gives scope for further expansion. The partial relocation option is therefore rated medium. Selection of a new site could maximise the available area for development and make optimal use of this space. **The full relocation offers the most flexibility and potential to increase space, so is rated high.**

INVESTMENT IN EQUIPMENT AND FACILITIES: At present, space is so constrained that the port is perhaps limited in its ability to adopt the latest technologies and facilities, so the status quo option is rated low. Relocation of some functions assumes investment in more efficient equipment to maximise efficiency, so the partial relocation is rated medium. **The full relocation is rated high**, as it offers the potential to invest in the latest equipment and facilities to fit within the master-planned new location. The layout would also be optimal for adoption of new technologies.

TERMINAL OPERATING PRACTICES / LAYOUT: Partial relocation will lead to a separation of port functions and could result in continuity or

A VISION FOR DUBLIN BAY APPRAISAL OF OPTIONS

Vision



ROTTERDAM

communications issues between separate sites; the option is therefore rated low. **With the full relocation, the port layout can be designed to best meet requirements of workers, customers and other users, optimising working practices, so rated high.**

FUTURE MARKET OPPORTUNITIES

IN-COMING CARGO: Current capacity constraints mean it is difficult for the port to meet the needs of increasing vessel sizes and cargo volumes over time therefore the status quo is rated low. Improvement in cargo handling operations would accommodate some future growth in vessel size. The effect of relocating the bulk trade would depend on location. The full relocation means potentially a lower location choice for in-coming vessels (compared to partial relocation), but the aim would be to locate to a site which could accommodate the predicted expansion in cargo scale. **For these reasons the full relocation is rated medium/high.**

EXPORT GROWTH: Current indications are that export volumes are increasing year-on-year, though exporters tend to be located outside central Dublin. Thus, in the status quo, exporters currently face the inconvenience of congestion on the orbital routes around Dublin to reach the central port location (rated medium). In the partial relocation, a split location may be more or less convenient for access, depending on the separation of functions – for this reason

partial relocation is also rated medium. A large scale port with good access should have the greatest capacity to meet the projected trend increases in trade volumes, **thus the full relocation is rated high.**

SOCIAL AND HOUSING

DEMAND FOR HOUSING: This indicator relates to provision of housing. Strong population growth and resultant demand for housing is forecast for Dublin but the City Council will become constrained by land availability so the status quo is rated medium. The partial relocation creates some residential space, but will also attract new workers, further boosting demand – the option is therefore rated medium / high. **The full relocation creates the most units, so is rated high.**

SUPPLY OF SITES / PLANNING: There are currently major constraints in land availability around the city centre, with some development planned for peripheral areas. The status quo is therefore rated low. Partial relocation creates a new supply of land in the city centre, while full relocation creates new space equivalent to adding an area the size of square mile to the city to alleviate current constraints. The partial relocation is therefore rated low/medium whilst the **full relocation is rated medium/high.**

LIFESTYLE / LEVEL OF AMENITIES: There is currently very little amenity benefit in this area, the status quo therefore offers low benefit. The

new development options include a 50% allowance within the total site footprint for creation of new public spaces and upgrading of amenities. This could bring a significant additional area available to the population of Dublin, potential uses could include walking areas, beaches, marinas, watersports, sports fields, and any other feasible options. The partial relocation therefore offers medium benefit and **the full relocation high benefit**, according to the increase in developed space.

AMSTERDAM



A VISION FOR DUBLIN BAY APPRAISAL OF OPTIONS

IMAGE OF DUBLIN – NEW DEVELOPMENT: The partial relocation assumes a mixed-use development including industry which may not be complementary to either use, limiting access to the port and lowering residential and office values due to port proximity. Neither function operates at its full potential, affecting overall image. Thus, the partial relocation is rated low as it represents a decline in image from the status quo (rated medium). Full relocation entails a transition to modern, dynamic sectors and space, rather than traditional industrial space. The design should ensure optimal appearance and fit with current surroundings, so the **option is rated high**.

ENVIRONMENTAL ISSUES

ENVIRONMENTAL COSTS: Large-scale redevelopment and change of land use results in energy use, waste creation and potential human pollution of the waterfront. Land reclamation is also destructive to natural habitats. Thus, the full relocation is rated low (i.e. highest costs). **Partial relocation involves a lower degree of new development, so is rated medium. The status quo involves no new development, but also involves annual dredging of the bay, which disturbs eco-systems, while ships generate noise and air pollution. The status quo is also therefore rated medium.**

ENVIRONMENTAL BENEFITS: There are no new benefits associated with the current port operation, other than those that would occur as a result of new EU legislative requirements. The partial relocation means that fewer ships enter the bay, so pollution is reduced, while released port land is remediated and current contamination mitigated – the

option is rated low/medium. Implicit in the **full relocation** of Dublin Port is the opportunity to design a more environmentally efficient port, but jointly understood are the environmental impacts of building an entirely new port at a greenfield location thus the **option is rated medium/high**.

SUSTAINABILITY: Economic growth of the port is currently constrained. Continued on-site port operation requires reclamation, and current operation has significant externalities in terms of congestion, noise and pollution (rated low). Partial relocation involves reclamation of land with a significant and lasting negative impact on the environment (option rated low). The possibility to create a self-sufficient sustainable development with current best environmental practise is offered by **the full relocation option, rated high**.

PORT TRAFFIC: Current oil, bulk and freight traffic at the port have externalities for the city in terms of noise, congestion and pollution from trucks and ships, so the status quo is rated low. Selective relocation of oil and bulk traffic from port operations should reduce externalities to Dublin – noise, congestion and pollution as the volume of port traffic is reduced (rated medium). The removal of all port freight traffic should reduce the negative externalities to the city. Removal of all ships (except cruises) should also improve air and water quality. **The full relocation is rated high**, though it should be noted that port traffic is actually increasing in volume, though at a new site outside Dublin itself. The benefit is therefore being displaced from the new port location.



COPENHAGEN



CAPE TOWN

APPRAISAL CONCLUSIONS

Using the current assumptions, there is evidence to suggest that the **full relocation** of the port and development of the vacated site for a mixed use of residential, public and employment space offers the best long-term impact for Dublin.

By creating new employment capacity, the new land use is generating increased long-term output for Dublin, and resultant tax revenues for the State. These long-term gains more than off-set the initial capital cost of the relocation and development. The option is however the most expensive in the short-term, requiring significant investment in construction.

Full relocation also appears to offer the best relative qualitative position for Dublin, promoting quality of life, efficiency and maximising future opportunities. However, there are some disadvantages related to port-based unemployment, and incurring environmental costs.

AMSTERDAM



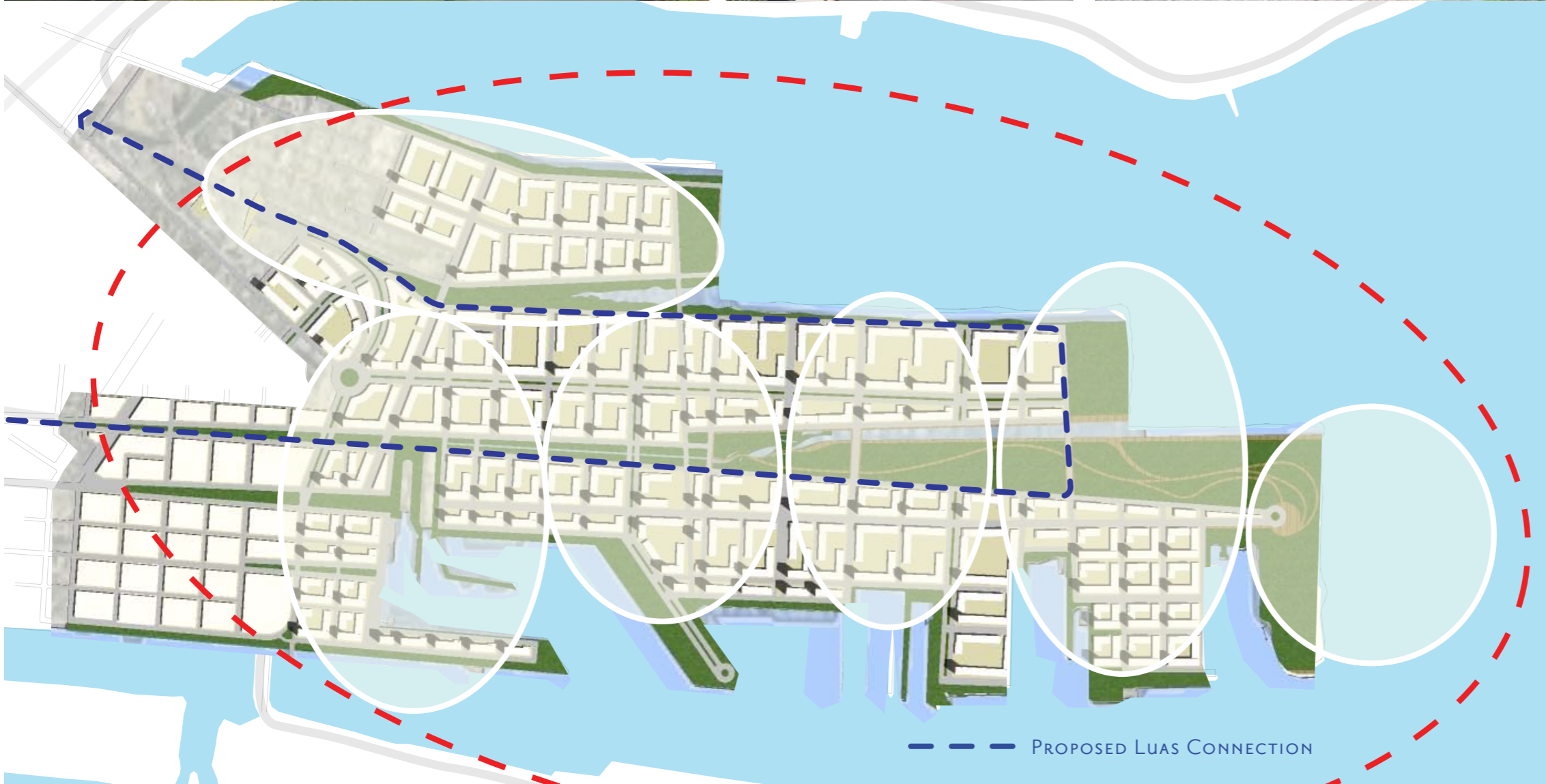
**A VISION FOR DUBLIN BAY
DUBLIN: A WORLD-CLASS CITY**

Vision

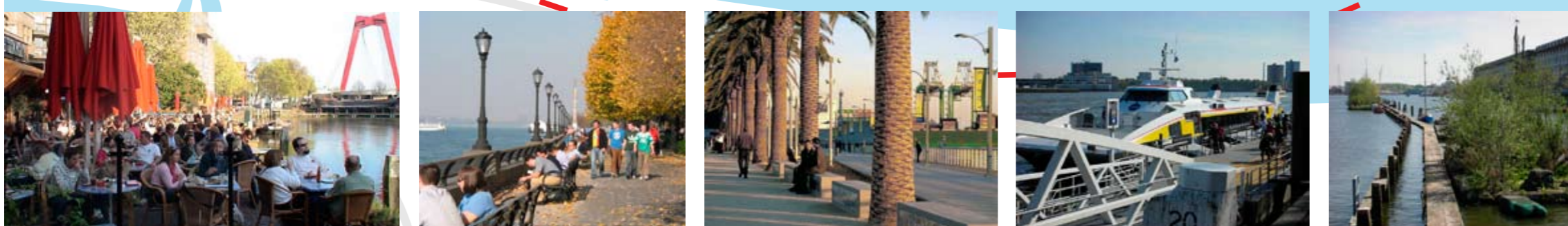


Extending the necklace of Bay villages on to Port lands will provide unparalleled opportunities for Dublin to dramatically enhance its image. The key urban elements of that transformation will include:

- Iconic/ landmark opportunities
- Urban Squares & Parks
- New pedestrian bridges
- Water Taxi system
- Cultural waterfront destinations
- Open space linkages
- Pedestrian areas with a particular emphasis on connecting the city to the bay.



This plan envisions integrating the 1,700 acre Phoenix Park, one of the largest urban parks in Europe, into the city with a tree-lined boulevard running from the gates of the park alongside the River Liffey. This new boulevard would become part of a new east west armature of promenades, parks and gardens which culminate on Dublin Bay in a new great park.



A VISION FOR DUBLIN BAY DUBLIN: A WORLD-CLASS CITY



A TRULY WORLD CLASS CITY

Dublin is in the throes of an unprecedented urban expansion. To ensure it remains a truly world-class city it will have to carefully consider and craft a set of goals and design principles to guide its expansion over the next 25 years. This strategic development approach will have at its core the following goals:

- Target 2050 lifestyle
- Establish a new image for Dublin – with iconic buildings and spaces
- Demand that new developments incorporate the highest standards of sustainable design
- The environment should be subject to minimal impact – improving water quality and biodiversity, drawing energy from renewable sources, and recycling all waste.
- Transit is key in tying it all together – expanding the Luas will foster convenient and safe public transit that is essential to reducing Dublin’s dependence on the automobile, and fostering a cleared carbon free and sustainable environment.
- Recognize the immense value that a publicly accessible water’s edge provides and locate activity on the water (amenity, retail, community, accommodation).

A VISION FOR DUBLIN BAY DUBLIN: A WORLD-CLASS CITY

Vision

The phenomenon of global climate change is widely accepted in Dublin, by the public, by Dublin City Council and Dublin Port Company. If average sea water levels rise as a result of climate change, then flooding of large tracts of the city and port would seem inevitable unless preventative measures are taken.

An alternative to widespread implementation of the current approach – local-scale flood prevention and mitigation measures – would be a single flood prevention programme for the whole area, one involving construction of tidal exclusion barrage structures to protect the shoreline of the bay.

Such approaches have been suggested in the past as part of tidal energy proposals, but the construction of the large-scale developments envisioned were too environmentally damaging. Perhaps now the balance in the relationship between human and environmental protection must change in some coastal urban areas; the choice may

be to protect such urban areas or to allow their gradual destruction in a series of catastrophic events. Perhaps more imaginative schemes can be developed that will achieve tidal protection with lesser environmental impact and even compensate for negative impacts through environmental enhancements and achievements in sustainable development.

Dublin Bay is a key environmental resource and one greatly affected by human activity, past and present. Bull Island, the internationally recognized bird reserve and the designated inter-tidal areas closest to human activity around the bay, are valuable areas to the city. Any scheme to address climate change should also address the value of these areas.

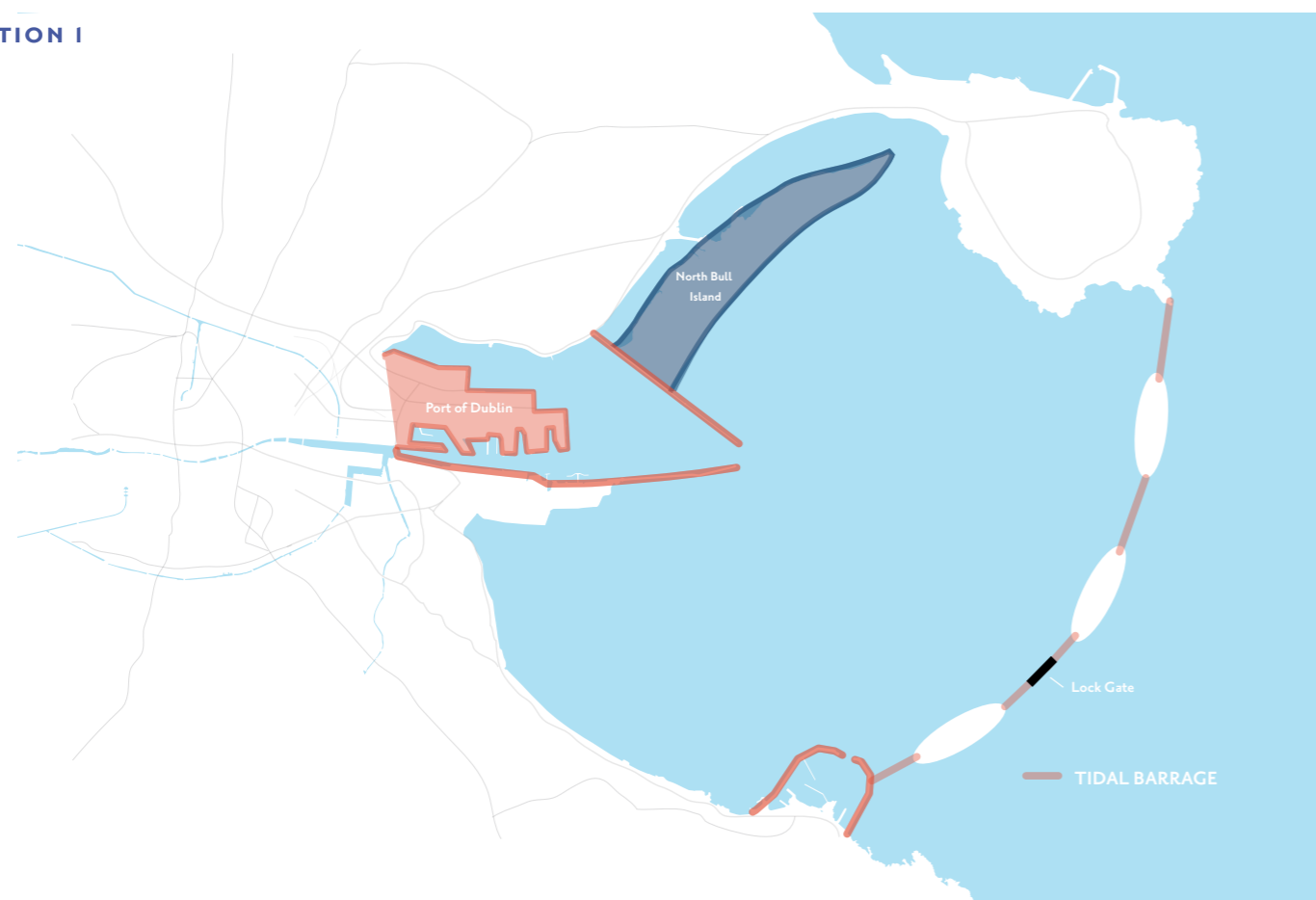
Perhaps such a scheme should also address other issues related to climate change – those of water resources (which many think will become an increasing problem in east Ireland as the rainfall reduces)

and reduction of carbon emissions through the use of alternative energy; perhaps such a scheme could also address other key issues in Dublin such as transport and better disposal of effluent from the Ringsend wastewater treatment plan and cooling water from power stations.

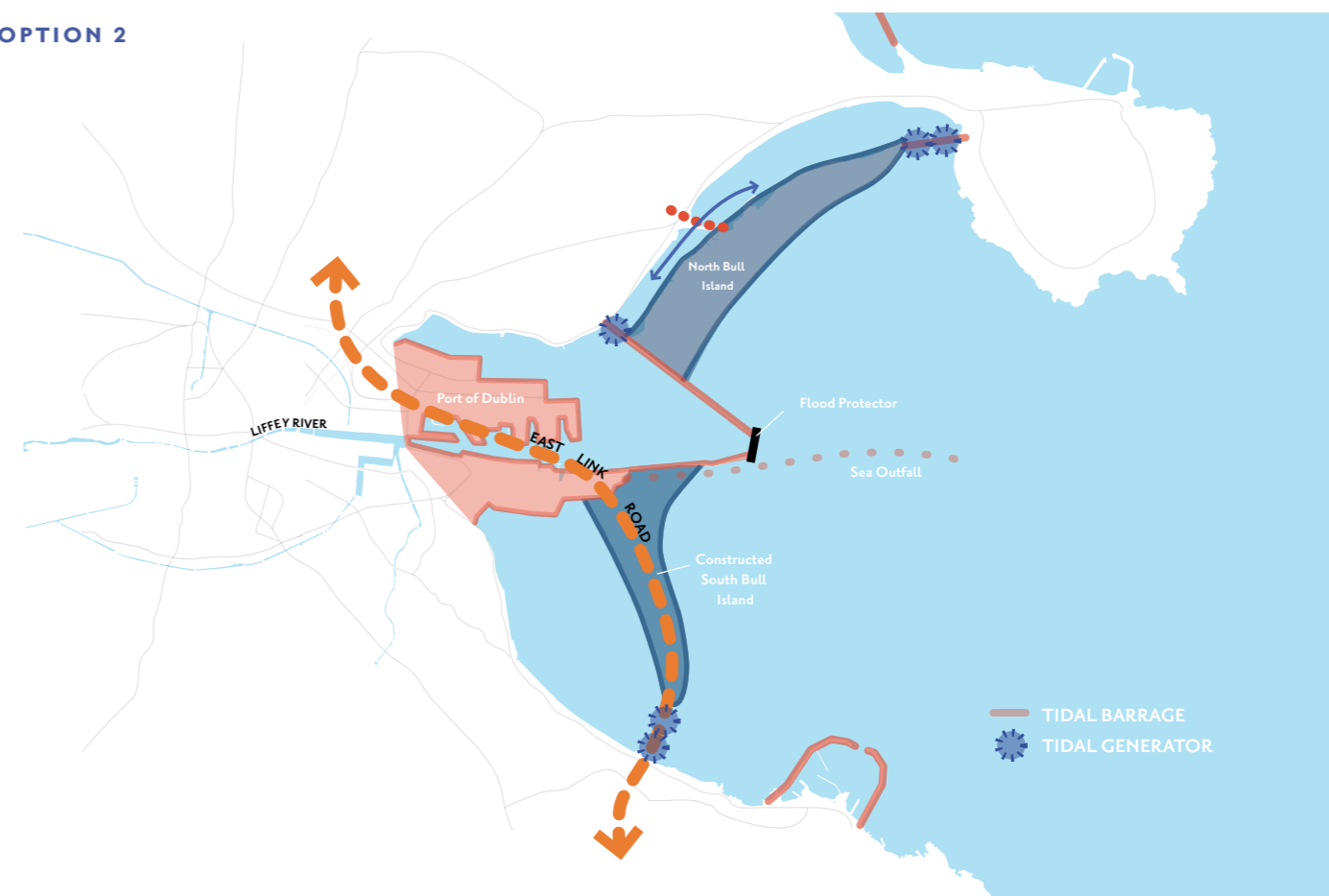
In this spirit, four alternative approaches have been imagined:

- The first envisages a tidal barrage structure from Dun Laoghaire to Howth, using the majority of the waters of the bay to generate tidal power. The intertidal areas would be largely maintained albeit with different periods of inundation. The structure could also be used as part of a road or rail link;
- The second envisages limited tidal energy but flood prevention of the city being provided by barrages between Howth and Bull Island and between the ends of the North and South Bull walls. A South Bull Island could be constructed some distance offshore with similar

OPTION 1



OPTION 2



A VISION FOR DUBLIN BAY CONFRONTING CLIMATE CHANGE

functions as the North Bull Island. It could be used for environmental and recreational uses. Potential other uses include building key infrastructure in this location underneath the Island. Barrages and tidal generators would be installed between Booterstown and the South Bull Island and in a channel created in the inshore end of the Poolbeg peninsula (to maintain flow inshore of the South Bull Island); and,

- The third envisages barrages with generators between the shore and North and newly constructed South Bull Island. However, the

structure between the ends of the two Bull Walls would retain the impounded water at a minimum water level and this would be gradually filled with freshwater from the Liffey rather than seawater. This would then form a water resource for the city, possibly requiring a degree of desalination. Again the South Bull could be used to house transport links, but this option would also require upgrades to water quality in the Liffey through removal of the various discharges in the river and estuary and the provision of a long sea outfall for the Ringsend wastewater treatment works and the adjacent power station.

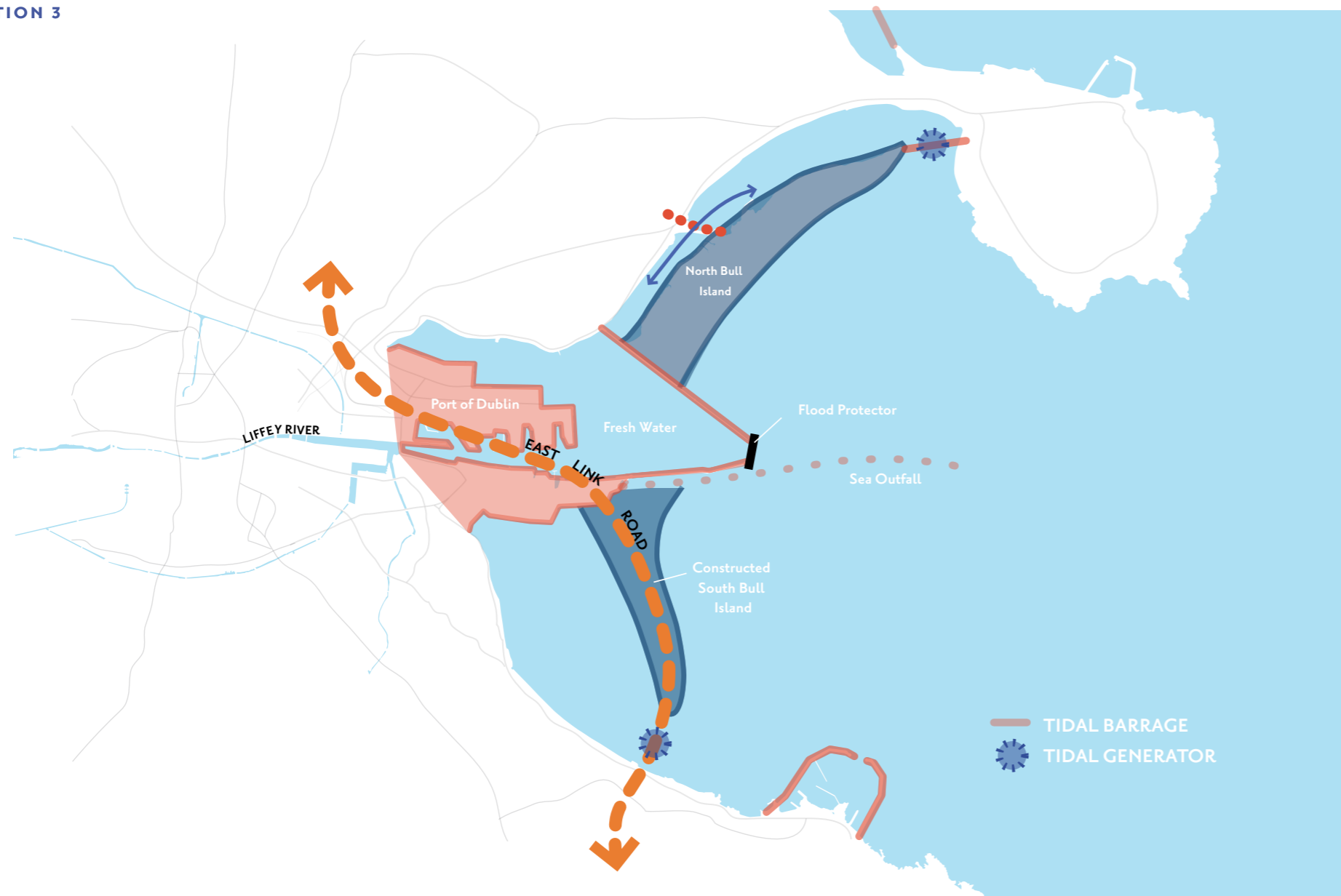
- The fourth is a reduced version of either Option 2 or 3 and envisages flood prevention of the city being provided by barrages between Howth and Bull Island and between the ends of the North and South Bull walls. The planned S2S (Sutton to Sandycove) promenade and cycle-path could be built to provide flood protection for the south bay area, instead of a South Bull Island.

In each, flood protection would be provided for the whole area, transport links could be included, varying degrees of tidal power would be an integral element of the scheme, and wind energy could be added if thought appropriate.

In each, inter-tidal areas would be affected to a greater or lesser degree, but in mitigation a completely new reserve on the South Bull Island would be created.

Regardless of the approach ultimately adopted to prevent and mitigate large-scale flooding, rising sea levels are a significant factor considered in the context of the city's integrated economic, social and cultural vision. As this study is the first stage in the development of a strategic framework plan for the Dublin Bay area, it is therefore important to highlight the serious implications of the projected longer term climate change impacts.

OPTION 3



AMAGER STRAND, COPENHAGEN, A RECENTLY CONSTRUCTED ARTIFICIAL ISLAND



A VISION FOR DUBLIN BAY CONFRONTING CLIMATE CHANGE

Vision



4. Environmental and Amenity Designations

“... liaise closely with the Department of the Environment, Heritage and Local Government and other relevant agencies to assess the potential impact of proposed development frameworks on these designated areas and to submit proposals, where considered warranted, for their alteration in extent or status... provisions of the Strategic Environmental Assessment Directive are of relevance...”

- Dublin City Council, 28th July 2006

Existing EU and proposed national designations provide adequate protections for inner Dublin Bay if fully implemented. The overall plan for Dublin Bay, by stated objective, is to include “an evaluation of South Dublin bay with a view to its designation as a Natural Heritage Area and as a Special Amenity Area under the Planning Acts, and full implementation of such designation(s) if so designated.”

EXTENSIONS/REVISIONS TO DESIGNATIONS OF INNER DUBLIN BAY

It has already been proposed to designate North Dublin Bay and South Dublin Bay as Natural Heritage Areas (NHA), sites of national importance protected under the Wildlife (Amendment) Act 2000. While this proposal is pending, planning and licensing authorities must recognise the ecological value of the proposed designation when considering planning applications and developments that would affect these areas.

NHA designation augments protections afforded to both parts of the bay as Special Areas of Conservation (SAC) because the Wildlife Act 2000 prevents the destruction of important habitats during critical nesting times for birds and strengthens compliance with international accords, such as the UN Convention on Biodiversity, by including species such as fish and aquatic invertebrates omitted from the original Wildlife Act of 1976 and providing for larger fines and prison sentences for breach of regulations.

The proposed NHAs overlap with the designated SAC boundaries



PROPOSED NATURAL HERITAGE AREAS OF DUBLIN BAY

DESIGNATION	WHAT	LEGISLATION	PROTECTS
Special Protection Area (SPA)	North Bull Island and Sandymount/Tolka Estuary	EU Birds Directive (79/409/EEC)	Migratory Birds and Rare Birds of Annex I
Special Area of Conservation (SAC)	North Dublin Bay and South Dublin Bay	EU Habitats Directive (92/43/EEC)	Natural Habitats of Flora and Fauna
Proposed Natural Heritage Area	North Dublin Bay and South Dublin Bay *	Wildlife 2000 Amendment Act	Biodiversity and Habitats
Biosphere Reserve	Bull Island	UNESCO’s Man and Biosphere Programme (1970)	Promotes Scientific Research and Wildlife Protection
Ramsar	Bull Island	Ramsar–Convention of Wetlands of International Importance (1975)	Wetlands

A VISION FOR DUBLIN BAY

PROPOSED EXTENSION OF DESIGNATIONS

Environmental Designation

in North Dublin Bay and South Dublin Bay, except for the Tolka Estuary, which is not proposed as part of the NHA. The proposed NHA boundaries also overlap with the Special Protection Area (SPA) designations although the seaward SPA boundaries extend further into the bay.

In the case of a full relocation (Option 7), the relocation of port traffic offers a unique opportunity to both enhance and protect the recreational, amenity and environmental areas around the bay, For example it has been suggested that – like the River Liffey Valley, North Bull Island and Howth Head – South Dublin Bay could be designated as a Special Amenity Area to provide a level of protection focussed on the quality of amenity use not biodiversity. Where an area appears to be of special amenity value, a planning Authority (or a number of planning authorities together) can propose it as a Special Amenity Area Order (SAAO) under section 42 of the Planning and Development Act 1963. The relevant authority may propose the SAAO if the area displays 1) outstanding natural beauty, 2) a special recreational value, or 3) a need for future conservation.



Should the port remain in its current location either entirely (status quo, Option 3) or with some partial relocation (Option 5), the opportunities to increase or change designations are reduced.

Lastly, it is believed that Bull Island was created as a result of the construction of the North Bull wall, and since the island has continued to grow since that time, it is also widely believed that construction of a causeway to the island has impeded tidal flow and resulted in sedimentation in the lee of the island.

Whatever the cause, it seems likely that the island will eventually connect to the land at its northeast end, except for a limited channel draining the Santry River. If development of the island is as a result of deposition encouraged by the North Bull Wall, then this evolving form of the island may well be inevitable even if the causeway were to be removed. Even so, removal of the causeway should be investigated to establish if the island status would be maintained by such a removal.

THE LIFFEY ESTUARY AND INNER BAY

Given the water quality issues, physical modifications and intense port activity within the Liffey estuary and bay, any further designation beyond its Special Amenity Area status would seem premature at this stage; once the future of the port and its lands have been agreed, then action will be needed to protect and enhance that environment. At present, the EU Water Framework Directive is being implemented and this should result in improvements to the water quality and ecology of the estuary; at present the ecological objectives of Irish estuaries have not been defined by the EPA and so the measures necessary to achieve them cannot be identified, but significant improvements to water management can realistically be expected.

PROTECTING THE OUTER REACHES OF DUBLIN BAY

The outer part of Dublin Bay has no protected areas and consideration should be given to affording the entire bay a special status to encourage its protection and enhancement – an endeavour requiring the engagement of three local authorities – Dublin City, Dun



Laoghaire/Rathdown and Fingal County Councils – and the national departments of Environment, Heritage and Local Government (DEHLG), Communications, Energy and Natural Resources (DCENR) and of Transport and the Marine.

Some resident, amenity and environmental stakeholders have advocated designation of Dublin Bay as a “national park”, and while the standard application of such status would be inappropriate, its holistic approach to bay management offers a model concept.

It is recommended to consider establishing Dublin Bay as a ‘marine reserve’ to achieve an integrated series of economic, social and cultural objectives:

- Improve water quality for the health of the marine ecosystem and the vital land- and seascape, for their intrinsic environmental and aesthetic values and the economic stimulus that may be derived from healthier more productive fisheries, amenity uses and the development of well-managed eco-tourism;
- Provide natural and man-made flood defences to guard Dublin against the rising sea levels that will be a consequence of climate change;

A VISION FOR DUBLIN BAY

MECHANISM FOR DESIGNATIONS REVIEW

Environmental Designation

- Protect and nurture biodiversity and the ecological integrity of one or more ecosystems for present and future generations;
- Promote the bay as a significant area of environmental research and monitoring with national and international significance in scientific and educational terms; and,
- Encourage public appreciation of the bay as a whole, while managing visitor use for inspirational, educational, cultural and recreational purposes at a level that will maintain the area in a natural or near natural state.

MECHANISM AND PROCEDURE FOR REVIEW OF THE DESIGNATIONS

It is recommended that the boundaries be agreed by local authorities on a regional basis, with the broad-based input of community stakeholders, and the guidance and approval of DEHLG and DCMNR and other national authorities as appropriate.

It is recommended that a “Dublin Bay Trust” be established to administer the marine reserve in the interest of seamless governance of this national resource. The purpose is to consolidate, harmonise, supervise and/or augment the responsibilities of institutions that currently have regulatory roles related to Dublin Bay.



Serving as a 21st century model institution for Ireland and Europe, the Trust should be constituted in a manner that strengthens environmental policy and decision-making, invigorates public participation and ‘ownership’ of this national resource, strengthens governance and improves accountability.

It is proposed that the detailed scope, schedule and budget for the establishment of the Dublin Bay national reserve be defined as part of the master plan for the bay to be developed by Dublin City Council.

It is conceived that these details will align in seamless manner with the broader plan for Dublin Bay, inclusive of a framework for the introduction of coastal zone management.

It is recommended to investigate what Irish legislative requirements are necessary to make this effective, including the issue of governance, since such a marine reserve would incorporate areas currently under the control of three local authorities and two Government departments.

Ownership and management should normally be by the highest competent authority of the nation having jurisdiction over it. However, they may also be vested in another level of government, council of indigenous people, foundation or other legally established body which has dedicated the area to long-term conservation.

Community stakeholders clearly stated the bay is a community facility and that access and leisure use are of the highest priority and we believe that this should be one of the underlying themes of any future development; this common resource should be available not only to the residents of bayside communities, but also to the wider community of Greater Dublin, with bay access facilitated along the entirety of the shoreline, albeit in a sensitive manner to protect the natural environment.



A VISION FOR DUBLIN BAY **MECHANISM FOR DESIGNATIONS REVIEW**

Environmental Designation



5. Coastal Zone Management

“The whole area of coastal/bay area management is very new in Ireland and there is no obvious model study on which to base the Dublin Bay Plan. Coastal management in Ireland such as it exists is characterised by a sectoral approach to resource exploitation and management and this sectoral approach results in multi-user conflicts and dissension, as management and use of the coastal zone is not currently coordinated to conduce sustainable development.”

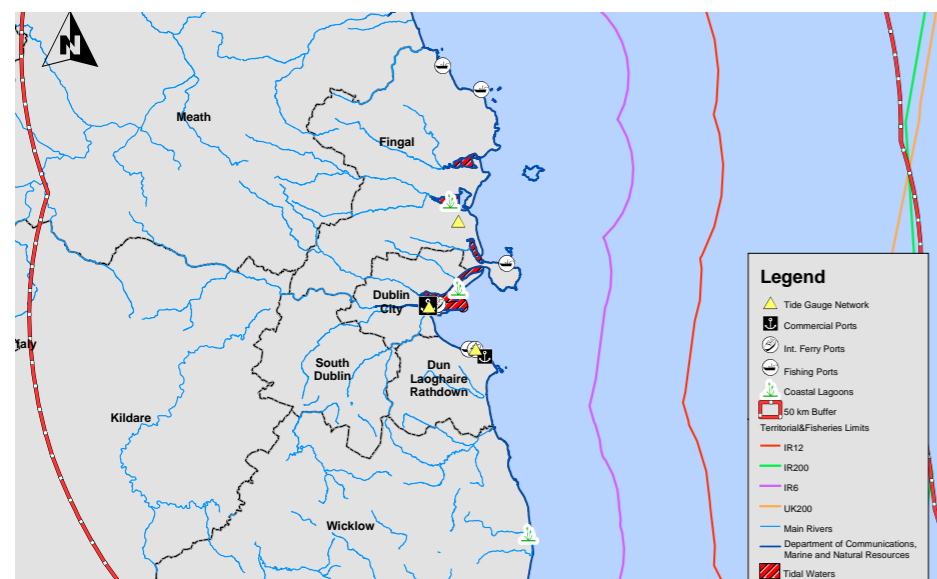
- Dublin City Council, 28th July 2006

The European Commission defines integrated coastal zone management (ICZM) for the area within 50 kilometres of the coastline as follows:

... a dynamic, multidisciplinary and iterative process to promote sustainable management of coastal zones. It covers the full cycle of information collection, planning (in its broadest sense), decision making, management and monitoring of implementation. It uses the informed participation and cooperation of all stakeholders to assess the societal goals in a given coastal area, and to take actions towards meeting these objectives. It seeks, over the long-term, to balance environmental, economic, social, cultural and recreational objectives, all within the limits set by natural dynamics. ‘Integrated’ refers to the integration of objectives and also to the integration of the many instruments needed to meet these objectives. It means integration of all relevant policy areas, sectors, and levels of administration. It means integration of the terrestrial and marine components of the target territory, in both time and space.

The central principles are simple and straightforward.

- First, coastal zones are influenced by a range of piecemeal but interconnected policies. ICZM strategy provides for a holistic approach which will study the cause and effect of each of these. To



EU STANDARD BOUNDARIES OF COASTAL ZONE

be successful, a coastal zone management strategy must be forward looking, anticipate potential problems and evolve over time.

- Second, the ICZM process brings together all interested parties of a coastal area into designing strategy for their region to promote a sense of shared responsibility and reduce potential conflicts when implementing the strategy.

The role of local administrations is best adapted to provide information on local conditions and involve local interested parties. Regional administrations can co-ordinate and provide a broader and long-term outlook on initiatives at local level while national administrations must provide the legal framework and support.

FRAMEWORK FOR COASTAL ZONE MANAGEMENT OF DUBLIN BAY

The coastal zone in and around Dublin is a highly diverse area ranging from pristine natural habitat to the highly industrialized port waterfront. The coast’s resources are, however, limited and the economic activities which compete for these vital resources are leading to more conflicts between various interests. An integrated approach is needed that accounts for the physical, economic, cultural and institutional aspects of each particular coastal region in an environmentally and economically sustainable strategy.

The mix of instruments to be used in managing Dublin’s coastal regions – law and economic instruments, voluntary agreements, information provision, technological solutions, research and education – will depend on the problems faced by the region in light of its institutional and cultural context.

Towards the “establishment of a context within which some form of consensus regarding the role of the bay can be established, broad-level user conflicts reduced and a framework for future development and possible future scenarios established”, a seven-stage process is proposed to craft an ICZM policy context and strategy framework for Dublin Bay.

This recommendation is offered recognising that the Department of Communications, Marine and Natural Resources is undertaking a “strategic review of the legislative framework, structures, and procedures in place to manage the State owned foreshore”, a review

that will “outline the options, informed by best international practice, for putting in place a modernised legislative framework and improved systems and procedures for Coastal Zone Management, which will best fit the medium to long term requirements in this area”. In that context, Dublin City Council may wish to offer the approach described herein as a contribution to the national strategic review.

The process that goes into “defining” the various groups, regions, and other issues may be initially contentious and iterative. However, if successful, the process will establish the framework through which collaborative and productive decision making will be completed for the ICZM.

1. **DECISION MAKERS AND WORKING GROUPS;** Identify and authorize the key decision making agency and establish the ICZM Committee empowered by the city and agencies they represent to make commitments and decisions on defining the ICZM framework.
2. **SUSTAINABLE VISION;** a dynamic and iterative process adjusting with consideration of data as it is collected.
3. **SUSTAINABLE LAND USES;** begin defining the sustainability of various land uses with substantial stakeholder
4. **COASTLINE AND THE INTEGRATED COASTAL ZONE;** establish the physical boundaries of the coast line and coastal zone and then be subdivided into regions; they should be limited to those areas within which geographical boundaries, human activities, or environmental processes directly or indirectly impact the quality and nature of the coastal zone.
5. **EXISTING LAND USES AND ZONING;** define existing and proposed land use zones within the coastal zone in digital format
6. **SUSTAINABLE LAND USE ZONING;** the zoning would guide future development and activity within the coastal zone and limit development in sensitive regions while encouraging sustainable growth.
7. **ICZM POLICY;** formal adoption of the vision, goals and zoning as a regulatory tool by the lead agency with provisions to review and update the policy





6. Guidelines for Sustainable Use

“STRATEGIC OBJECTIVE 1.3: Strengthen local governance by creating an innovative and proactive neighbourhood democracy, which enhances participatory and representative democracy and ensures everyone has the chance to be involved in the decisions that affect their neighbourhood and quality of life.”

Dublin - a City of Possibilities 2002-2012, Dublin City Development Board, 2002

Sustainable use of Dublin Bay conveys a commitment to its future as an asset and amenity for the next generation of Dubliners, recognising that the Bay is an evolving resource.

Consistent with the direction of Dublin: A City of Possibilities, sustainable use requires an integrated approach that balances interdependent economic, cultural and social values – where culture is understood to include our natural heritage: the environment.

The City Council, following through on its commitments to the environment and biodiversity, have been responsible for major improvements across the Bay in recent years, such as the Dublin Bay Project that has improved water quality dramatically and brought bathing water status to the capital’s beaches.

Further gains in environmental quality and sustainability are expected as a wide range of major projects progress, from the stakeholder-driven programme of measures to be adopted by the Eastern River Basin District aimed at achieving good ecological status that throughout this 6,200-km2 river basin to the Greater Dublin Strategic Drainage project that will address a wide range of water quality issues relating to sewer systems and their treatment works.



To establish Dublin as a world leader in sustainable development – which necessarily requires continuing stewardship and future sustainable use of Dublin Bay – and in so doing transform compliance with environmental conventions, directives and other regulations from merely a driver of reactive action into an opportunity for learning and growth and competitive advantage, it is recommended that the city:

- Confirm and/or refine its priorities and establish new goals towards Irish and EU-wide objectives related to climate change, biodiversity, environmental health and sustainable use of natural resources and management of waste, in accord with the Sixth Environmental Action Programme: 2001-2010;
- Extend its strategic management system of measures, quantifiable targets and initiatives to environmental goals and objectives, consistent with the Thematic Strategy on the Urban Environment adopted by the European Commission on 11 January 2006 and as illustrated by the concept depicted here; and,
- Share knowledge systematically with coastal urban centres to leverage experience, notably including the port cities of Copenhagen, Denmark, which is implementing a Local Agenda 21 strategy, and Amsterdam and Rotterdam, The Netherlands. Others of interest include Singapore, which relocated ferry terminals and is building a multi-purpose barrage to improve flood defences, augment water supply and create an urban water environment park ; Delaware Bay, Delaware; San Francisco, California; and, Sydney, Australia – recommended by the Dublin Regional Authority for possible bay and harbour organisational models; and, Dublin’s sister cities of Barcelona, Spain; Liverpool, England; and, San Jose, California.

GUIDELINES

These guidelines, to be vetted by Dublin City Council within the framework of a strategic management system, emerge as a result of analysis of existing conditions in Dublin Bay, stakeholder consultation, visioning and cost-benefit evaluation of varied options for development of the bay and port lands, proposed extensions or modifications to protected areas and initial thinking towards coastal zone management.

It is conceived that Dublin City Council should work as and when



appropriate with the county councils of Dun Laoghaire-Rathdown, Fingal and South Dublin, including through the Dublin Regional Authority, to achieve multi-jurisdictional results for the protection and enhancement of Dublin Bay as a national resource.

I. GOVERNANCE AND MANAGEMENT

Dublin City Council should seek enabling legislation and authority for a Dublin Bay Trust that will provide for seamless governance of Dublin Bay as a national resource. The purpose is to consolidate, harmonise,

A VISION FOR DUBLIN BAY APPROACH TO SUSTAINABLE USE OF THE BAY

Sustainable Use Guidelines



supervise and/or augment the responsibilities of institutions with regulatory roles in a manner that strengthens environmental policy and decision-making, invigorates true public participation and ‘ownership’ of the bay and improves accountability.

Dublin City Council should develop a detailed master plan for Dublin Bay and advocate for sustainable measures governing planning and development to be adopted within the context of a national framework for coastal zone management that protects biodiversity and environmental health. The master plan will emerge from a robust, participatory and responsive process that actively engages the broad spectrum of stakeholders – maximising diversity and inclusiveness to establish shared commitment and a common sense of values manifested in a Dublin Bay Statement of Commitments.

To support mutual success of vision and mission, Dublin City Council and Dublin Port Company should forge a joint partnership agreement to facilitate renewal, relocation and redevelopment activities that may occur within the remit of present and future port lands and commit to align their mutual undertakings for growth and profitability with the principle of sustainability.

2. DESIGN AND CONSTRUCTION

Dublin City Council should work with stakeholders, state agencies and developers to ensure that re-development (or indeed any development) of the Port lands will result in a net negative outcome for Ireland’s contribution to global warming/carbon emissions. Furthermore, development will be designed on the basis of ensuring

that residents and businesses of this new urban village at the water’s edge will be protected against future flooding from rising sea levels attributable to climate change.

Dublin City Council should set sustainability standards for new development along Dublin Bay that encompasses green design of buildings compliant with current and future best practise and sustainable construction methods and techniques for energy efficiency, renewable energy utilisation, etc. Sustainable management plans will be required with planning applications for new buildings.

Dublin City Council should develop design guidance that promotes synergy between traditional and modern architecture, adaptive reuse, an iconic built heritage and public spaces that are uniquely reflective



A VISION FOR DUBLIN BAY APPROACH TO SUSTAINABLE USE OF THE BAY

Sustainable Use Guidelines

of Dublin's character. To leverage market forces and private enterprise, Dublin City Council should promote world-class competition among developers for design and construction of new neighbourhoods and building complexes.

3. TRANSPORT

Traffic is already the single greatest cause of discontent in Dublin and the potential redevelopment of the port lands could worsen traffic conditions. Therefore, Dublin City Council should require development of pedestrian boulevards and mass-transit systems (ferry, light rail, bus) in redeveloped port lands as the prime mode of transport, to result in a net reduction in commuting times for the city of Dublin. The Dart (light rail system) and Luas are very successful. These trends need to be developed further for the Bay area, as is



planned in the S2S (Sutton to Sandycove) promenade and cycle path, through the provision of better and safer cycle paths and walkways, and perhaps coupled to water-based transport modes. Comparisons of temperature and rainfall between Dublin, Amsterdam and Copenhagen show similar climatic conditions, those cities boast significant commuters as cyclists, and so an enhanced cycle path network should be a central plank of the sustainability goals.

4. RESEARCH AND DEVELOPMENT

Dublin City Council should seek to establish the city as a "Global Centre of Excellence in Sustainability", establishing policy and market-based instruments to leverage public and private knowledge and investment capital to develop standard-setting environmental and energy technologies, transport systems, spatial strategy and land-use planning implementation, marine and natural resources research, etc.

Dublin City Council should seek opportunities to advance the role of science in decision-making and demonstrate leadership by sharing lessons in urban environmental quality through global forums, such as the United Nations Environment Programme's 'Green City' initiative.

5. GLOBAL CLIMATE CHANGE

Dublin City Council should endeavour to play a leading role in initiating a reduced reliance on conventional carbon-generating energy sources through the application of appropriate alternative energy sources potentially including geothermal, wind and tidal power. Dublin City Council should seek to spearhead these technologies in Ireland and exceed the goals agreed nationally. One of its goals should be for all city installations to be energy neutral with all requirements being satisfied by alternative energy sources.

6. BIODIVERSITY

Dublin City Council should promote the enhancement of the biodiversity in Dublin Bay through protection of designated areas and the establishment of a nature/marine reserve designation for the bay, as described earlier. The need to protect the city from marine flooding will afford opportunities to enhance the environment in the bay as a whole as part of far seeing bay management plan.



7. EFFICIENT USE OF NATURAL RESOURCES AND MANAGEMENT OF WASTE

Dublin City Council should seek ISO 14001 certification and encourage the same by semi-state enterprises, public institutions and private industry within its boundaries.

8. MONITORING AND EVALUATION

Dublin City Council should maintain its commitment to sustainability proofing and should prepare mid-term reports on progress towards sustainability in the context of its 10-year strategies and seven-year development plans.

Dublin City Council should participate in the EU-wide consultation in 2009 on the impact of urban environment measures and seek a leadership position during review of the Sixth Environmental Action Programme in 2010 and development of its successor programme.



A VISION FOR DUBLIN BAY

APPROACH TO SUSTAINABLE USE OF THE BAY

Sustainable Use Guidelines



We would like to thank the following individuals or organisations who supplied data or made submissions to the study:

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- Dublin Institute of Technology
- Dublin Port Company
- Dublin Regional Authority
- Irish Business and Employer Confederation
- Irish Exporters Association
- Maurice Bryan
- National Institute for Transport and Logistics
- Ringsend Amenity Group
- Sandymount and Merrion Residents Association
- Sean Dublin Bay-Rockall Loftus



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