



 **Ports Australia**

**Leading Practice:
Port Master Planning
Approaches and
Future Opportunities**
August 2013

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FORWARD

This report has been prepared by Ports Australia, with the assistance of Sprott Planning and Environment Pty Ltd.

It presents a strategic view of leading approaches to port master planning.

It has been developed to assist the industry address port master planning requirements as part of their overall port governance framework.

It does not purport to outline mandatory requirements for every port master plan – as each port will need to ensure appropriate contextualisation for their master planning approach, taking into consideration the particular legislative settings within each jurisdiction.

A wide range of groups have been consulted during the development of this report including various Australian ports, Government agencies including the Commonwealth (Departments of: Transport and Infrastructure; Sustainability, Environment, Water, Population and Communities and the Bureau of Infrastructure, Transport and Regional Economics), and various State Transport Departments.

Thank you to these organisations for your valuable input into this work.

‘Ports form an important element in the economic and social development of virtually all countries. Accordingly, port planning should not only concern the port itself but also consider wider economic, social and physical factors in determining the role of the port in the overall regional and national development plans.’

(International Association of Ports and Harbours, USA)

‘It is a simple but effective concept that reforms and improvements to the operating and regulatory arrangements for ports are warranted in recognition of their key economic role and strategic position, and that such measures should be tied to meaningful long term and transparent port plans....’

(Ports Australia submission to the National Port Strategy)

EXECUTIVE SUMMARY

Background

Under the direction of the National Ports Strategy (NPS) released in 2012, port master planning has been identified as central to the improvement of land use planning and corridor protection in and around Australian ports.

It is our view that comprehensive port master planning can also lead to improved productivity outcomes, increased investment confidence and greater environmental protection.

This study was commissioned by Ports Australia to:

- proactively assist ports in their response to the enhanced master planning focus outlined in the NPS
- broaden the discussion and capture the potential benefits of comprehensive port master planning
- outline various approaches to master planning both within Australia and internationally; and
- address regulatory streamlining and reform options.

The challenge

Whilst the focus of this study was port master plans (primarily that long-term planning which occurs internal to port boundaries) the study has also considered broader planning considerations – ‘beyond-the-port-boundary’.

It is very clear that we must move away from port master plans being developed in isolation – simply addressing ‘within boundary’ issues.

‘If we are to meet the challenge of growth we must move away from ports being treated like islands; unconnected from broader planning and transport links in the cities and regions where they are sited.’

(Federal Minister Hon. Anthony Albanese MP – Keynote address to Ports Australia Biennial Conference, 2012)

This study has included a review of specific port master planning case studies (both within Australia and internationally) and a review of strategic and policy approaches in and around ports (including regulatory approaches used in the management and protection of the port interface).

The benefits of master plans

Port master plans help clarify and communicate the port vision – they form a critical part in a ports’ ‘licence to grow’.

They also provide a strategic framework for port authorities to consider a range of internal and external factors that may impact on current and/or future operations.

It is our view that if comprehensively developed, port master plans can:

- articulate the medium and long term ‘port vision’ to a wide range of stakeholders
- create additional economic value through increased industry and investment confidence.
- assist in overall supply chain management by:
 - integrating the port into broader network consideration (by promoting greater understanding of the port needs within regional and local planning agencies)
 - ensuring that vital seaport (and logistic chain) infrastructure is delivered when and where it is needed (via well-considered staging options).
- maximise significant economic and productivity improvements through efficient management of critical infrastructure delivery and protection
- provide increased environmental protection by identification of critical environmental values early in the design process; and
- address interface issues (social and environmental) in and around seaport areas (ie. help to inform port users, employees and local communities as to how they can expect to see the port develop over the coming years).

The way forward

To take the findings and recommendations of the study forward, the next steps should include:

1. adoption of this document to guide/assist port master planning at Australian ports
2. advance discussions with relevant Commonwealth Departments regarding the relationship of Port Master Plans and 'Strategic Assessments' under Part 10 of the Environment Protection and Biodiversity Conservation Act, 1999 (EPBC)
3. continued strong advocacy for regulatory reform at the Local, State/Territory and Commonwealth levels to:
 - a. promote better alignment of strategic land use planning frameworks
 - b. protection of critical port infrastructure and corridors; and
4. undertaking a 'Demonstration Case' for a 'Strategic Assessment' of a port master plan.





1. INTRODUCTION

1.1 Overview

This study is considered relevant for all Australian ports, as it is clear that port master planning will form a central component of port governance in forward years, and a critical tool for land use planning and corridor protection in and around our ports.

It is our view that all commercially trading Australian ports would benefit from having a comprehensive master plan – public or private, small or large, bulk/general or mixed cargo. Many ports are well progressed with this work.

Consistent with the NPS, it is also our view that a ‘one size fits all’ master planning approach will not be appropriate for Australia’s port industry. Given the spatial and operational diversity of seaports around Australia, the level of detail in port master plans will need to vary, taking into consideration the locational context of the port, the scale of activity, demand markets and economic drivers, particular local and regional circumstances, and the extent to which the port interfaces with the community.

Considered judgments will need to be made based on the contextualisation of each port.

This study was commissioned to:

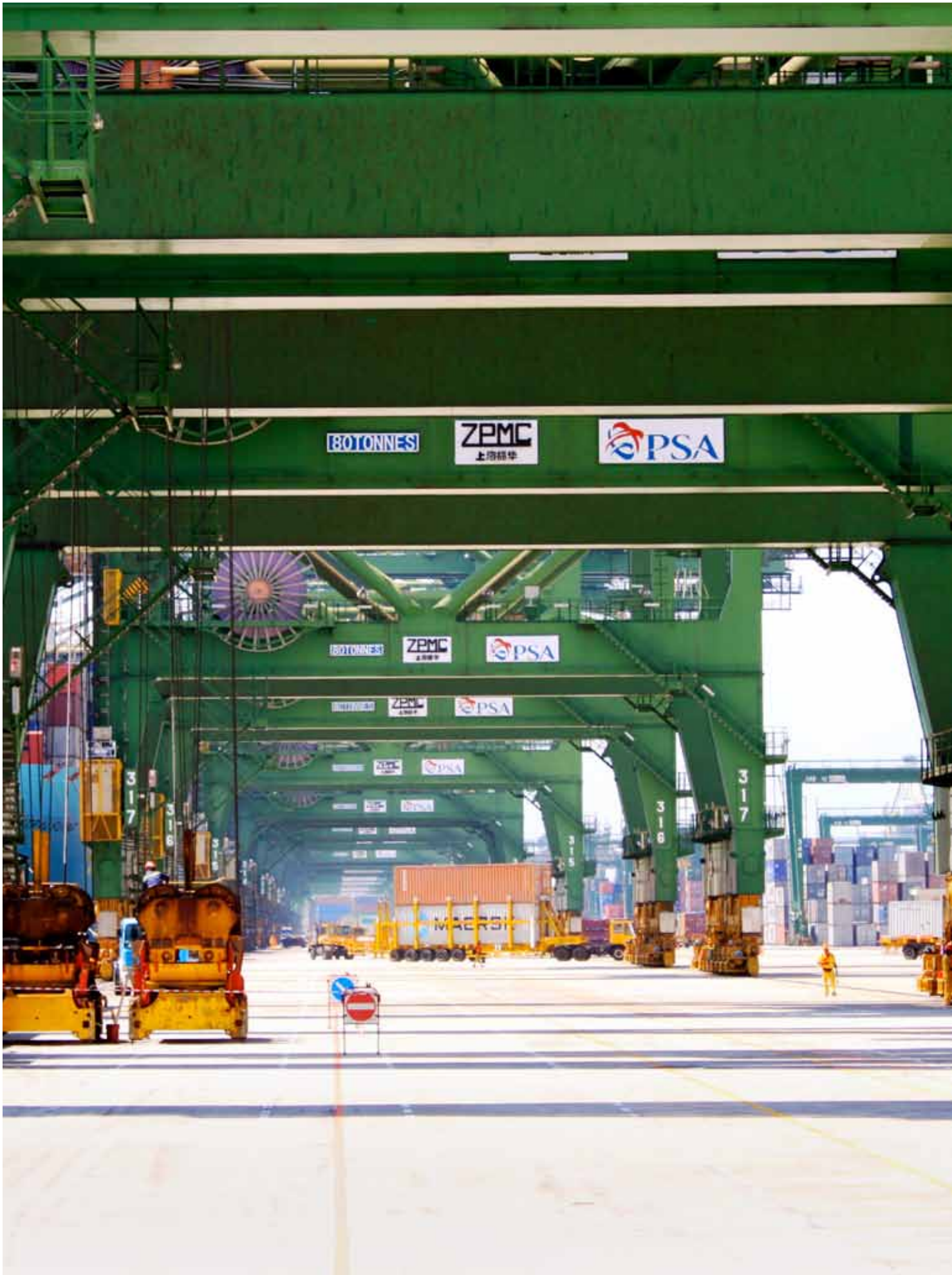
- proactively assist ports in their response to the enhanced master planning focus outlined in the NPS
- broaden the discussion and capture the potential benefits of comprehensive port master planning
- outline various approaches to master planning both within Australia and internationally; and
- address regulatory streamlining and reform options.

1.2 Study Process

This report has included a literature review using Australian and international case study information, and consultation with various State and Commonwealth agency representatives. A number of Australian ports also made positive contributions to the study.



Figure 1.1: Details the study process



2. LITERATURE REVIEW

2.1 Overview

A literature review was undertaken as part of the study to provide information on current seaport master planning practices, using both Australian and international sources. *(The full Literature Review is contained within a separate report, with a summary only provided in this section).*

The work included a review of both ‘strategic policy’ and ‘port-specific’ approaches and included the following sources:

Table 1.1: Literature Review Sources

Strategic Policy Approaches (‘Planning Beyond the Port’)	Port-Specific Master Planning Examples
• ‘Background Paper No. 4’ prepared for National Port Strategy • PIANC Working Group 158 – Port Master Planning (international committee work currently underway) • Seattle City Council/Port of Seattle’s regulatory example of port protection and ‘planning beyond the port’ thinking • International Association of Ports and Harbours (IAPH) – Port Planning Guidelines • European Seaports Organisation (ESPO) – Best Practice Recommendations/Allied Policy • American Association of Port Authorities (AAPA) – Best Practice Recommendations/Allied Policy • National Port Strategy – Australia • UNESCO Investigation – Great Barrier Reef World Heritage Area • Great Barrier Reef Port Strategy (2012) • Port of Melbourne’s ‘Port Environs Planning Framework’ • Commonwealth Aviation White Paper and Airports Act provisions	• Port of Southampton • Port of Dublin • Port Metro Vancouver • Port of Melbourne • Port of Hay Point • Port of Gladstone • Port of Dampier <i>(Rather than simply conduct a review of numerous specific port master plans, this Literature Review focused on recent examples in Australia and overseas. In some cases Strategic/Master Plans are not published – remaining ‘in-confidence’ documents, and are therefore difficult to source).</i>

2.2 Main Findings

It is clear that whilst master planning has been progressed in Australia, the industry can learn further from shared experiences both at home and abroad.

In reviewing a range of master planning approaches, it is our view, a standard methodology has been commonly applied – as shown in Figure 2.1.

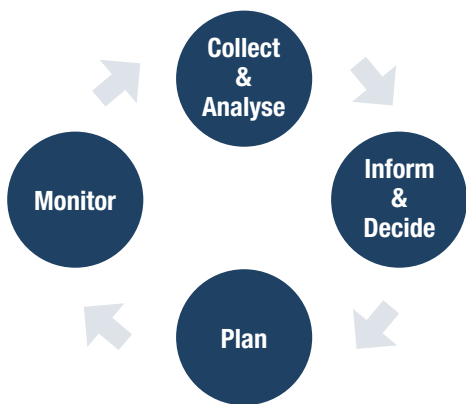


Figure 2.1: Simplified master planning methodology – traditional

Stage	Analyse
Collect & Analyse	... information and data (trade forecasts, industry trends, emerging markets, etc)
Inform & Decide	... development options – staged responses, etc
Plan	... land uses, precincts, buffers, implementation, impact management approaches and systems, etc
Monitor	... and review progress

It is evident, however, that the level of commitment to the different stages varies between ports.

Some ports may wish to adopt a non-traditional ‘scenario-testing’ approach to master planning (similar to that adopted by Port Metro Vancouver), which may present a more streamlined and engaging model – as shown in Figure 2.2.

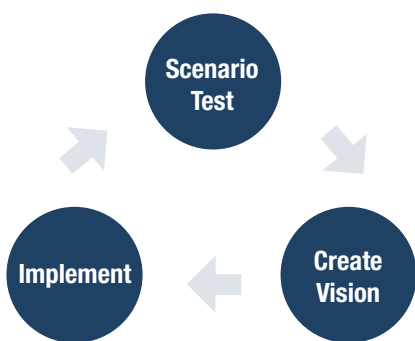


Figure 2.2: Streamlined master planning methodology – contemporary approach

Regardless of the methodology used to develop port master plans, it is very clear that we must move away from port master plans being developed in isolation – simply addressing ‘within boundary’ issues.

Broader, ‘whole of network thinking’ is becoming more and more evident in the global seaport industry. Recent master planning work undertaken by Port Metro Vancouver (via ‘scenario testing’) and the Port of Dublin (via the inclusion of a parallel ‘strategic environmental assessment’ of the Master Plan) provide valuable examples.



Recent International Port Master Plans (Ports of Dublin, Southampton, Vancouver and New Orleans).

It is therefore clear from the examples sourced in the review of literature and case studies, and from speaking to industry representatives within Australia and internationally, a more collaborative, ‘beyond the port’ approach to master planning is required, taking into consideration a range of factors such as those shown in Figure 2.3.



Figure 2.3: Broader considerations essential during port master plan development



3. BENEFITS OF MASTER PLANNING

3.1 Overview

Port master plans help clarify and communicate the port vision. They also provide a strategic framework for port authorities to consider a range of internal and external factors that may impact on current and/or future operations. Considered judgments will need to be made based on the contextualisation of each port.

It is our view that if comprehensively developed, port master plans can:

- articulate the medium and long term 'port vision' to a wide range of stakeholders
- create additional economic value through increased industry and investment confidence
- assist in overall supply chain management by:
 - integrating the port into broader network consideration (by promoting greater understanding of the port needs within regional and local planning agencies)
 - ensuring that vital seaport (and logistic chain) infrastructure is delivered when and where it is needed (via well-considered staging options)
- maximise significant economic and productivity improvements through efficient management of critical infrastructure delivery and protection
- provide increased environmental protection by identification of critical environmental values early in the design process; and
- address interface issues (social and environmental) in and around seaport areas (ie. help to inform port users, employees and local communities as to how they can expect to see the port develop over the coming years).

Further to these benefits, the OECD has recently confirmed as part of the 'Port Cities Program' in the European region, that if well-designed, strategic planning endeavors can help engage main stakeholders, strengthen links with clients and create local goodwill (OECD, 2012).

Whilst these benefits of master planning are generally understood, it is also worth considering the tangible 'on-the-ground' benefits for critical port stakeholders. Table 3.1 outlines the benefits of comprehensive master planning to for the port itself, a range of industry groups, the environment, the broader community and government stakeholders.

Table 3.1: Master Plan benefits

PORT	INDUSTRY
- Communicates port history - Articulates the port vision - Adds significant economic value - Clarifies potential port footprint - Acts as a tool for stakeholder communication - Tests proposed land allocations - Outlines future infrastructure requirements - Outlines and organises infrastructure programming and delivery - Provides 'confidence' for negotiations - Drives external policy alignment (land use planning, transport, environmental policies, etc)	- Promotes increased industry and investment confidence via increased transparency - Provides comparative analysis opportunities - Reduces perceived 'regulatory risks' identified by potential financiers - Provides confidence for human resource decisions relating to the procurement and mobilisation resources for major projects - Addresses incompatible adjoining land uses - Addresses (in part) community consultation/engagement requirements
ENVIRONMENT	COMMUNITY
- Allows early and strategic consideration of environmental values - Allows identification of potential impacts and consequential 'whole-of-port' management, monitoring and offset programs - Promotes targeted environmental management systems - Allows targeted and beneficial rehabilitation programs	- Communicates what the port vision IS - Communicates what the port vision IS NOT - Communicates surface transport corridor and allied infrastructure requirements – 'beyond the port boundary' - Communicates potential port interface issues - Provides greater understanding of key operational drivers
GOVERNMENT	
- Promotes alignment between National and State/Territory port strategies - Clarifies 'interface planning' issues and challenges (eg. appropriate land uses/buffer requirements, etc) - Identifies beyond the port infrastructure requirements (eg. surface transport corridors / allied infrastructure requirements – power, water, sewerage, telecommunications, inland terminals/hubs ,etc) - Promotes local and regional policy alignment (land use planning, transport, environmental, etc)	

4. MASTER PLAN CONTENT

4.1 Overview

Consistent with the view expressed within the NPS, it is clear that a *'one size fits all'* master planning approach is not appropriate for Australia's port industry.

As previously stated, **considered judgments will need to be made based on the contextualisation of each port**, with some ports considerably well progressed in this work.

4.2 Suggested Master Plan Content

A key component of the NPS is the need for relevant ports to prepare port master plans for a forward period of 15-30 years (Infrastructure Australia, 2012, p.20).

It is our view that port master plans should essentially follow a logical process as shown in Figure 4.1.

Whilst a generally consistent master plan format should be sought, each plan needs to be tailored around key economic drivers, environmental and social conditions for the particular region – including associated supply chain and hinterland issues.

Table 4.1 provides a suggested master plan framework including 'suggested content' considered relevant for inclusion in a port master plan – offering a guide for future master planning activities at Australian ports.

Each port will need to ultimately determine the nature and content of their master plans based on their own historical, economic, environmental and 'interface' planning considerations.

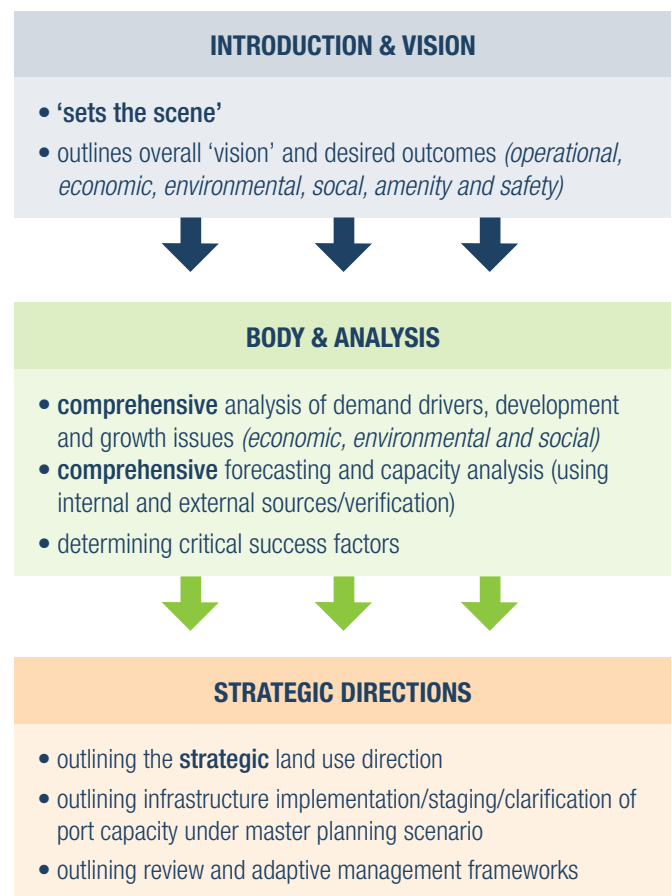


Figure 4.1: Basic master plan structure

4.3 Additional Planning Layers

Critically, each port will need to ensure 'supportive planning instruments' are in place to support the master plan aspirations.

Typically, Australian ports have 'Land Use Plans' developed for the port areas. Land Use Plans should aim to determine the 'appropriateness of use' within defined port precincts. This subordinate layer of land use planning control requires careful thought and must match the intent and principles outlined in the Master Plan.

It is highly recommended that Land Use Plans be supported by 'Development Guidelines or Codes', which address the physical form and operational aspects of development on port land. These guidelines or codes help raise overall standards of development and help articulate expected operational and environmental standards of development and performance.



Table 4.1: Suggested Master Plan Content

SUGGESTED Master Plan Contents <i>(fundamental purpose of section shown in italics)</i>	Guidance for each section <i>(relevance and/or level of detail will be dependant upon the individual port)</i>
INTRODUCTION & VISION	
Strategic Vision <i>(sets the scene)</i>	States the strategic vision for the port
Executive Summary <i>(provides 'snapshot' of master plan)</i>	Summarises key master plan elements. Suggest that this section covers: - history of port - history of previous master plans - detailed process through which master plan has been prepared - strategic outcomes sought - delivery strategy - governance systems - ongoing monitoring and adaptive management (including detail of next review)
History and strategic importance of the port <i>(provides historical importance of port to the economy and community – demonstrates longevity)</i>	Summarises history of port. Including historical: - aerial and operational photographs – demonstrating growth over time - trade patterns and economic contribution to wider economy - key milestone events - stakeholders and port tenants - community and environmental images
Purpose of Master Plan <i>(Outlines that plan is seeking to 'clarify the future')</i>	Outlines purpose and significance of master plan.
Regulatory, State and National Planning Context <i>(provides 'line-of-sight' planning commentary – 'the fit')</i>	Policy alignment represents one of the most significant issues for master plans. During the preparation of the port master plan, it is expected that this issue will be comprehensively examined and addressed with a series of government agencies This section should outline the 'fit' within National, State, Regional and Local planning frameworks 'Beyond the port Boundary' issues to be critically addressed. This is considered a critical section to reinforce the need for policy alignment between of all levels of government
Strategic Objectives underpinning the Master Plan <i>(outlines key objectives of master planning program)</i>	Outline key objectives sought under the Master Plan: - Articulation of port vision - Increased investment confidence and productivity improvements/operational efficiencies - Increased protection of port infrastructure, assets and key transport corridors - Careful management of growth (over a 15-30 year timeframe) - Sound environmental and cultural heritage management and protection - Soundly based capacity analysis and forecast - Increased interface management - Increased maritime safety and security - Open and accountable governance
Strategic Outcomes Sought <i>(demonstrates triple bottom line, 'beyond the port' thinking)</i>	Outlines primary outcomes sought under the Master Plan (suggest 5-8 key outcomes in each category): - Operational/Financial - Environmental - Social - Amenity and Built Form - Safety

Table 4.1: Suggested Master Plan Content *continued*

SUGGESTED Master Plan Contents <i>(fundamental purpose of section shown in italics)</i>	Guidance for each section <i>(relevance and/or level of detail will be dependant upon the individual port)</i>
INTRODUCTION & VISION <i>continued</i>	
Safety and Maritime Security <i>(reinforces fundamental safety and security issues)</i>	Outlines fundamental safety and maritime security issues of relevance to the master plan
Consultation <i>(demonstrates commitment to an engaging, transparent process involving a wide range of stakeholders at various points)</i>	Outlines the process of consultation and engagement used in the development of the master plan and proposed ongoing engagement commitments. Critical for developing long term/legacy partnerships and greater understanding of port vision and operational imperatives. <i>(Level of consultation will be heavily dependant upon particular circumstance of each port – it is, however, considered a fundamental inclusion for the ‘plan making’ process)</i>
BODY & ANALYSIS	
Operational, Spatial, Financial and Environment Context <i>(outlines the ‘setting’ of the port environs – important to explain influences on master plan objectives and vision)</i>	Outlines key features of: - operational characteristics - financial imperatives and key drivers of project financing - geographic/spatial context - existing regulatory environment/policies in place for port environs (land and marine environments) - port environment, including environmental attributes, habitats, values at a local, regional and national level
Historical Trading Patterns/Volumes <i>(details trading pressures and growth patterns)</i>	Outlines historical, current trends and desired productivity levels, key market share and contestability issues – may include commercially sensitive material requiring protection from public process
Industry Trends and Movements <i>(demonstrates good understanding of global/national market context and influences)</i>	Outlines global and industry specific trends, which may influence the planning of port facilities eg. warehousing trends, shipping, merges and acquisitions, technology advances, automation trends, etc
Critical Supply Chain and Port Infrastructure <i>(outlines critical infrastructure – at and beyond the port)</i>	Outlines/delineates existing supply chain infrastructure – reinforcing efficiencies and sound investment strategy, etc: - port lands and precincts - surface transport corridors (Road, Rail and Channel) - inland industrial nodes - buffers - environmental areas
Interface Management <i>(outlines key ‘interface’ matters – raises awareness of current and likely ‘interface issues’ – focus is societal)</i>	Outlines/delineates key ‘interface’ issues: neighbouring land uses, transport linkages, community interface and interaction, existing protection and regulations in place (Marine Park Reserves/Conservation Areas, etc), identified challenges, future actions required
Forecasting/Projections <i>(critical part of master plan – provides background to future land use allocations and master planning principles. Some material may be commercial in nature and should be treated as such in any published version of the master plan.)</i>	Outlines: - economic setting and forecast conditions - trade forecasts (including detailed breakdown of cargo sectors capacity analysis and scenario testing) - analysis of capacity issues – including description of methodologies. A comparison with recognised government forecasting entities such as: Bureau of Infrastructure, Transport and Regional Economics (BITRE), the Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES) and the Bureau of Resources and Energy economics (BREE) - commercial shipping forecast and scenario testing Also to be outlined (subject to commercial in confidence material): productivity targets, management and monitoring framework for continuous review and adaptation.

Table 4.1: Suggested Master Plan Content *continued*

SUGGESTED Master Plan Contents <i>(fundamental purpose of section shown in italics)</i>	Guidance for each section <i>(relevance and/or level of detail will be dependant upon the individual port)</i>
BODY & ANALYSIS <i>continued</i>	
Port Infrastructure and Capacity Analysis <i>(outlines analysis of terminal and infrastructure capacities – including infrastructure development and staging proposed under master plan)</i>	Outlines key features of: - operational characteristics - financial imperatives and key drivers of project financing - geographic/spatial context - existing regulatory environment/policies in place for port environs (land and marine environments) - port environment, including environmental attributes, habitats, values at a local, regional and national level
Strategic Environmental Assessment (dependant upon individual circumstance) <i>(if undertaken, outlines process of undertaking SEA)</i>	Assess broader strategic environmental issues and develop ‘whole-of-port environmental management framework’ in line with agreed standards and in conjunction with key government agencies. <i>Ideally, this process should be conducted in parallel with the overall Master Planning process (see Section 7 of report)</i> <i>(Detailed discussions with SEWPAC and the relevant state/territory jurisdiction would be required to advance this option)</i>
STRATEGIC DIRECTIONS	
National, State and Regional Transport, Freight and Local Government Planning Frameworks <i>(outlines consistency and linkages with broader frameworks)</i>	Outlines/delineates position of port master plan in overall national, state and local frameworks. Needs to also highlight the need for protection of key transport corridors leading to/from the port (road, rail and sea channels)
STRATEGIC Operational objectives <i>(outlines key operational aims and objectives)</i>	Outlines/delineates strategic operational objectives sought under the port master plan
STRATEGIC Land Use Descriptions <i>(outlines proposed ‘strategic’ land use areas)</i>	Outlines/delineates strategic land use designations across all port lands for the 15-30 year time horizon Critically, these designations must be supported at the ‘Land Use/Precinct Planning level – ie. within port planning instruments AND surrounding local government planning schemes – to promote greater policy alignment, efficient ‘interface management’ and protection of key port areas and corridors
Implementation <i>(outlines proposed staging and implementation plan – timing, staging and actions required)</i>	The following matters should be explained: - Estimated timing and/or phasing of development - Infrastructure requirements (internal and external) - Financing options to be explored/partnerships, etc - Governance (internal and external) actions required - External communication requirements - Potential Tier One (ie. Commonwealth or State) approval requirements
Monitoring and Adaptive Management Measures <i>(demonstrates flexibility and ongoing management post master plan development)</i>	Outlines/delineates monitoring programs (including data collection methods), management systems and timing of master plan reviews
Conclusions and Summary <i>(wraps up plan and reinforces vision)</i>	Reconfirms vision of Master Plan, outlines commitments to ongoing engagement with industry and societal stakeholders during the delivery phase of the Master Plan



5. MASTER PLAN PREPARATION – the ‘Plan Making Process’

5.1 Overview

The process of preparing a port master plan is as critical as the detail contained within the document.

This section outlines the importance of using a methodology based on sound information, rigorous forecasting and comprehensive engagement – outlining the approach used in Vancouver and Dublin.

5.2 Case Studies

Port Metro Vancouver

Port Metro Vancouver realised the importance of employing a rigorous ‘plan making’ process during their ‘Port 2050’ process.



(See overview video http://www.youtube.com/watch?feature=player_embedded&v=dmlBnwgELs#).

Differing from traditional approaches to port strategic planning, the process involved the testing four differing forward ‘scenarios’. The general premise of the methodology was to allow large companies (such as ports) to make better decisions about the future today, while remaining open (and retaining flexibility) to address the ever-changing business environment.

The process involved expert panel member sessions, comprehensive internal engagement, and external collaboration with key stakeholders via scenario-building workshops and ongoing dialogue.

Ultimately, four scenarios were developed:

- ‘Local Fortress’ (gateway growth constrained, focus on regional economy, local resilience and well-being)
- ‘Missed the Boat’ (emerging market growth is strong, but the gateway misses opportunities and doesn’t live up to expectations, due to supply chain issues, poor coordination, lack of community support and diminishing industry support, etc)
- ‘Rising Tide’ (continued growth, but in a context of increased volatility due to resource conflicts and climate instabilities)
- ‘The Great Transition’ (a paradigm shift in the industry – a rapid transition to a post-industrial/post-carbon model)

Port Metro Vancouver determined that the future of the port and sector should belong partially in the ‘rising tide’ and partially within ‘the great transition’ areas. They have named this area – ‘Our Anticipated Future’ and are focusing organisational efforts in this zone.

One major action coming out of the master planning/scenario based process are substantial amendments being made to the port’s Land Use Plan – where the vision becomes activated operationally.

‘Port 2050’ has proven a great success – and provides a tangible example of a ‘scenario-testing’, engaging approach to strategic port planning.



Port of Dublin

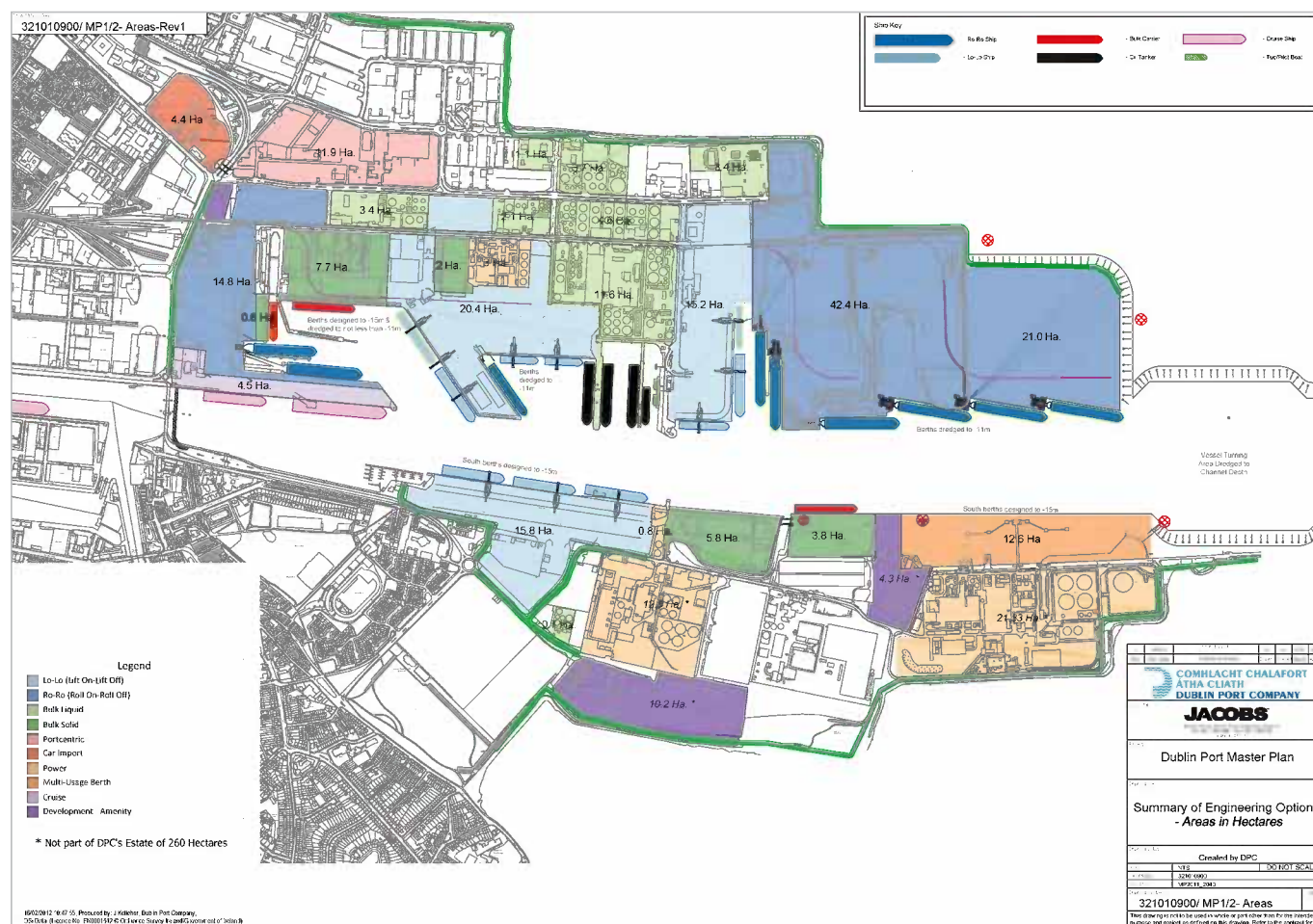
Strategic/master planning undertaken at the Port of Dublin also provides a recent example of a comprehensive master planning ‘plan making approach’.

(See overview video http://www.youtube.com/watch?feature=player_embedded&v=rXYkZptkf6Y)

From the outset of the master plan process, the port company stated:

‘The over-riding reason for producing this Masterplan has been to provide all of the Port’s stakeholders with a clear view as to how the Port will be developed over the long-term’.

This is one of the clear benefits of master planning – **provision of strategic clarity.**



Port of Dublin Master Plan extract.

Key features of the master plan were the address of safeguarding principles, the detailed analysis of trade forecasts, the in-built flexibility for staged development responsiveness and the Strategic Environmental Assessment (SEA) process conducted over the master plan under EU regulations.

The inclusion of the SEA as part of the master planning process provides a contemporary example of broader consideration of key spatial and environmental issues – beyond the port's defined boundaries.

The master plan was prepared by the Dublin Port Company in order to:

- **plan** for future sustainable growth and changes in facilitating seaborne trade in goods and passenger movements to and from Ireland and the Dublin Region in particular
- **provide** an overall context for future investment decisions
- **reflect** and provide for current national and regional guidelines and initiatives

- **ensure** there is harmony and synergy between the plans for the Port and those for the Dublin Docklands Area, Dublin City and neighbouring counties within the Dublin Region
- **give** some certainty to customers about how the Port will develop in the future to meet their requirements.

The master plan's foundation is detailed capacity and demand analysis – which in turn allows a staged approach to development in forward years.

The Dublin Port Company has also made it very clear that 'societal integration' is a key issue – with a primary master plan aim of 're-integrating' with the city of Dublin after many years of separation and fragmentation.

In our view, the master plan has been very well developed with the following general format:

- A very clear **Executive Summary** with primary messages and underlying principles

- **The Rationale** for the master plan
- **Trade Forecasts** and analysis
- An outline of **infrastructure proposals**
- **Safeguarding, property and amenity** issues
- **Transport and inland connectivity** issues
- **Social community and economic** impacts
- **Safety and security**
- Summary of **environmental studies**
- **Implementation strategy** for the master plan
- **Monitoring and review** of the master plan.

The inclusion of a Strategic Environmental Assessment (SEA) is explained in the master plan document itself:

'The SEA has been prepared to comply with the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I 200 of 2011).

The purpose of the SEA is to ensure that any likely significant environmental effects of the preferred Masterplan Options and their future development are identified.

It is considered that in developing the SEA in conjunction with the Masterplan, it will demonstrate how environmental considerations and sustainable development decisions have been integrated into the Masterplan development process.'

The Port of Dublin SEA approach may offer an insight for the Australian industry and policy makers, regarding the broader consideration of 'beyond the port' issues.

It may also prompt a potential increased number of 'Strategic Assessments' of relevant master plan components – using existing regulatory provisions within the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

See further discussion in Section 7.

5.3 Key Plan Making Principles

The case studies provided in this section (and reviewed as part of the Literature Review) provide recent examples of master planning approaches at international seaports.

Upon review of these examples, it is our view that the following 'key principles' should apply to the 'plan making' process within the Australian context:

Principle 1: Strong governance commitment is critical

Principle 2: Plan making must aim to be collaborative and transparent, involving a range of stakeholders at various points throughout the process. Stakeholders can include:

- Internal port staff (ensure representation across the organisation)
- Port tenants
- Community groups
- Environmental groups
- Leading industry groups (eg. Resource, Agricultural and Mining Councils, etc)
- State, Local and Commonwealth Government agencies (eg. Transport, Strategic and Statutory Planning, Infrastructure, Environmental, Freight)
- Logistics/Supply Chain Managers
- Financiers/Investment Managers
- Freight Transport Operators (eg. Trucking Associations, etc)
- Relevant Indigenous Groups (for Native Title and/or Cultural Heritage matters).

(To assist with the correct identification of stakeholders, it is suggested that a Master Plan 'Engagement Plan' be developed at the commencement of the master planning process).

Principle 3: Plan making must be based on reliable well-researched information and realistic forecasting data. Forecasts should be vetted against leading government forecast agencies

(e.g. Bureau of Resources and Energy Economics (BREE), Bureau Infrastructure, Transport and Regional Economics, Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)

Principle 4: Plan making should involve 'scenario testing'

Principle 5: Plan making must consider 'beyond the port'/'whole-of-logistic network' issues

Principle 6: Plan making must consider project-financing options/alternatives

Principle 7: Plan making must consider sustainable development hierarchy of 'avoid-minimise-monitor-adaptively manage'

Principle 8: Plan making should consider development staging

Principle 9: Plan making should involve the publication of a '**Master Plan Snapshot**' or '**Master Plan Summary**' for publication on the relevant port website.

(It is acknowledged that 'commercial-in confidence' information needs to be protected in any published material).

5.4 The Plan Making Process – Key Steps

Table 5.1 provides a guide for the key steps in the plan making process. Also demonstrated are how the ‘key principles’ prescribed in Section 5.3 have been included in the process.

Critically, each port will need to tailor the plan making process to the individual circumstance of the port and its environs. Figure 5.1 simply outlines a generally accepted and comprehensive approach to plan making, ensuring appropriate levels of sound information and stakeholder engagement in the process.

Table 5.1: Master Plan Stages and Principles

MASTER PLAN PROCESS guide	
‘Process Step’	Relevant Plan Making Principles’
Resolve to prepare Master Plan	1
Internal Scoping Workshop <i>(scope and context for master plan, confirming commitment to process)</i>	2
Prepare Strategic Issues Papers <i>(critical data/information)</i> Historical Development Review Trade Patterns – Historical and Forecast Capacity Analysis Demand/Trade Drivers – Hinterland and Contestable Key ‘Economic Conditions’ Key ‘Port Interface’ Issues and Opportunities Key ‘Strategic Environmental’ Issues and Opportunities Emerging Industry and Network Trends Project Delivery/Financing Issues and Opportunities Engineering Issues and Opportunities Landside and Waterside Issues and Opportunities Surface Transport Linkages (Rail, Road and Sea)	2, 3, 5, 6, 7 & 8
Internal Workshop <i>(Executives, Senior Management, Board, etc).</i> <i>Such workshops should involve ‘scenario testing’ as a component</i>	1, 3 & 5
Stakeholder Transparency: (Workshop, Forums, Open Days, Targeted Meetings)	1 & 2
Develop Broad Scale Concepts and Alternative Scenarios	4
Stakeholder Transparency: (Workshop, Forums, Open Days, Targeted Meetings)	2
Further advance Master Plan concepts with greater precinct detail	4, 5, 6, 7 & 8
Stakeholder Transparency	2
Prepare ‘draft Master Plan’ for consultation period	2
Prepare ‘consultation report’ based on feedback	2
Refine master plan and concepts	4, 5, 6, 7 & 8
Targeted ‘close-out’ engagement with key stakeholders	2
Prepare ‘Final Master Plan’ Place ‘Master Plan Summary’ on website	9

5.5 Other Matters

5.5.1 Which Ports?

It is our view that all commercially trading Australian ports will benefit from having a comprehensive master plan.

A sound approach to planning in and around all ports is considered fundamentally important to strategic land use planning of our cities and regions, increased productivity gains and industry confidence and enhanced environmental protection of coastal zones.

5.5.2 How long will it take?

Time taken to prepare a comprehensive port master plan will vary between ports and will depend heavily upon a range of operational and governance factors.

As a minimum, master plans are expected to take between six to 12 months to prepare, which includes time for consultation as suggested in this report.

Longer periods may apply depending upon availability of baseline information/technical data.

5.5.3 How long will the plan last?

Defining the most appropriate time horizon for port master plans is difficult.

Port infrastructure may be very long-lived with asset lives of 30+ years. Data forecasting is traditionally difficult in the port industry, with data beyond 20 years becoming increasingly subjective.

A master plan horizon of around 15-30 years may therefore be appropriate.

The NPS supports master plans with a time horizon of around 15-30 years. It is critical, however, to ensure regular updates are undertaken as part of the ongoing monitoring and adaptive management process.

5.5.4 Commercially sensitive material

Ports should be under no obligation to disclose information in the master plan that they regard as 'commercially confidential or sensitive'.

Ports must, however, resist a common trend to not disclose any data, by stating that 'all data is sensitive'.

The reality is that it may be better to share information earlier as part of the strategic planning process. It may be possible to 'group' data sets or 'roll-up' information so that at the very least, stakeholders reading the master planning documents can understand basic demand drivers and the basis for land use allocations within the master planning document.

Table 5.1 includes the suggestion that port managers publish a 'snapshot' master-planning document at the end of the process. It is recommended that such documents be placed on port websites to make them available to the public and other port stakeholders.





6. IMPORTANCE OF POLICY ALIGNMENT

6.1 Overview

Critical to the success of the port master planning process is the support offered to the port vision through external regulatory instruments and regional and local policies.

Policy alignment is the key to successful implementation and realisation of the vision outlined in a port master plan and must be a key focus of strategic planning work at all levels of government.

The NPS supports this view.

Figure 6.1 shows the key success factors necessary for achieving successful port vision outcomes.



Figure 6.1: Key Success Factors

6.2 National-State-Regional-Local Alignment

All levels of regulation are key to achieving successful outcomes. Figure 6.2 details a snapshot of regulations/policies which ought to be aligned, including the work carried out as part of port master planning.

Achieving alignment is difficult. It is clear, however, that the NPS calls for all levels of government to work collaboratively to address critical alignment issues.



Figure 6.2: Critical Instrument Alignment

It is our view that alignment will lead to greater overall confidence in the system – and in turn, greater economic productivity – the ultimate objective of the NPS:

'Ports and related land-side logistics chains are critical to the competitiveness of Australian businesses, which rely on them to deliver business inputs and to take exports to the global market.'

*Long-term **integrated** plans will help to attract public and private investment in ports and related logistics sectors. Reform can also remove barriers to trade, reduce transaction costs, increase competition and contestibility and provide important linkages to domestic and global value chains.*

Ports are therefore critical to productivity and economic growth in Australia'.

(National Ports Strategy – 2012)

Ultimately, the aim of policy reform focussing on sound alignment, should be to provide increased confidence in our port system – leading to increased productivity and significant benefit through clarity, for our economy, communities and environment.

Put simply: **'strategic policy alignment + confidence = economic productivity'**

6.3 Governance Support

A solid base of governance support is critical for successful port master planning.

It is a precursor to achieving successful outcomes.

Governance support must be internal and external to the organisation:

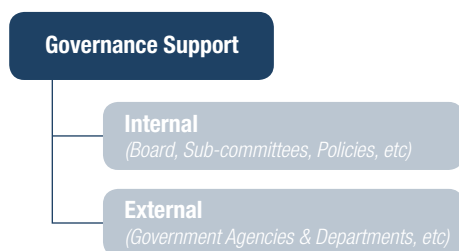


Figure 6.3: Governance Support Framework

Internal organisational culture and behaviours must exemplify 'support and focus' for master planning activities. Senior Executive and Board members within the organisation must, at every opportunity, support the focus of the work underway and offer support for those participating in the process.

This support can be offered through:

- appropriate funds being made available for the 'plan making' process and engagement/consultation activities
- unambiguous support for the sharing of data and strategic information across the organisation
- supporting port staff during their period of involvement with the master planning process
- establishment of a special committee with senior level, operational representation across the organisation
- periodic reviews of progress via regular updates through the established governance frameworks (sub-committee meetings/ board meeting, etc)
- supporting frameworks/operational plans such as comprehensive Land Use Plans, Development Codes, etc.

External governance support (via state and local agencies/ government departments, etc) must also be evident for the process.

The framework for government support should be clearly discussed and agreed at the commencement of the master planning process.



7. POTENTIAL REGULATORY OPTIONS & INDUSTRY RESPONSE

7.1 Overview

This section addresses a number of potential regulatory opportunities identified as part of this study. It also presents a number of industry and policy options to respond to the increasing call for port master plans.

7.2 National Level

7.2.1 Strategic Assessment under Environment Protection and Biodiversity Conservation Act (1999)

Background

Under the EPBC Act, '**Strategic Assessments**' may be contemplated for large scale, broad 'actions' such as:

- regional-scale development plans and policies
- large-scale housing development and associated infrastructure
- fire, vegetation/resource or pest management policies, plans or programs
- infrastructure plans and policies
- industry sector policies.

Strategic Assessments can be undertaken by the organisation responsible for implementing the program (which in this case could be the State or Territory Government, Port Authority or private sector entity) in partnership with the Australian Government.

Despite *Strategic Assessment* provisions under the Act being infrequently used, it is our view that the process may offer regulatory advantages in particular circumstances (ie, where 'Matters of National Environmental Significance' (MNES) are relevant). The relevance and potential advantages of these provisions would, however, need careful consideration by respective port managers and state/territory jurisdictions. The existing nature of the port concerned, potential staging of further development and impact on existing approval and assessment processes would all need to be considered.

Potential Benefits

The benefits of a *Strategic Assessment* of relevant port master plan components could be numerous:

- early and strategic consideration of relevant environmental values at and around the port – considering long-term port strategies and allied operational requirements such as:
 - land use and development types
 - dredge material placement areas
 - land reclamation areas and proposed development footprints
 - critical access channels
 - anchorage areas
 - environmental buffers and conservation areas
 - environmental off-sets and management/research programs and investments with beneficial environmental outcomes
- incorporation of 'cumulative impact assessment', adopting a 'whole of port' methodology
- increased investment confidence for industry and potential private sector investors
- increased transparency for port stakeholders (current and future port tenants, local/interfacing communities, environmental interest groups)
- increased clarity of likely port development and consequential operational requirements for ports within special protection areas such as the Great Barrier Reef World Heritage Area (GBRWHA)
- increased clarity for government agencies – including for example, city planning and infrastructure, environment and heritage and transport/freight agencies
- reduced consequential, project-specific assessments timeframes;
- increased clarity regarding 'whole-of-port' monitoring and adaptive management requirements.

We also hold the view that a *Strategic Assessment* approach would be in line with the Government's reform outlined in '*Reforming National Environment Law: An Overview*' published in 2011.

The Process

Strategic Assessments are regulated under Part 10 of the EPBC Act and offer the opportunity to look at, and potentially approve, a series of new proposals or developments (actions) over a much larger scale and timeframe (even if the developer is currently not known).

At a broad level, the process occurs in two steps:

1. assessment and endorsement of a 'policy, plan or program' (*which in this case may be a 'Whole-of-Port' Environmental Management Framework within a Port Master Plan*); and
2. approval of actions (or classes of actions) that are associated with the policy, plan or program (*which in this case, may be certain development types within the master plan area*).

The second step potentially allows development to proceed across a large area without further need for EPBC Act approval (under Part 9 provisions) of individual developments (ie. 'project-by-project' assessments).

(It is important to note, however, that a Part 10 assessment is unlikely to meet the regulatory requirements for any specific dredging action. Permitting requirements under the Environment Protection (Sea Dumping) Act 1981 would continue to apply to such actions. For more information on this matter, consultation with the Department of Sustainability, Environment, Water, Population and Communities (SEWPAC) should be undertaken).

Figure 7.1 represents the available regulatory process in place for strategic assessments under Part 10 of the EPBC Act.

A full and proper examination of this process would need to be discussed with the Commonwealth and relevant State/Territory jurisdiction in relation to Port Master Plans – specifically those components of the Master Plan (eg. the Master Plan 'Whole of Port EMF'), which may be appropriate for assessment under the Part 10 provisions. This information is provided for **discussion purposes only** at this stage – and to highlight the potential advantages of using Part 10 provisions the EPBC Act.

Requirement for greater master plan detail

Port Master Plans have not traditionally contained the level of detail to allow Strategic Assessment under Part 10 of the EPBC Act, nor allow consequential 'classes-of-actions' to be approved (as provided for under the Act).

To address this issue, **port master plans subject to a Strategic Assessment would most likely need to address**, in part, the following:

- the 'recommended content' outlined in Table 4.1; and
- additional matters requested by the Commonwealth ie. terms of reference/assessment guidelines specific to the port context – see *'A Guideline to undertaking Strategic Assessments'* (<http://www.environment.gov.au/epbc/publications/pubs/strategic-assessment-guide.pdf>) for more detail; and
- a comprehensive **'Whole-of-Port Environmental Management Framework'** including a series of 'supportive' information/management plans (to be potentially endorsed as the 'plan' under the 'strategic assessment') that would assist with: the protection of MNES, regulation and control of development, and monitoring and ongoing adaptive management of 'classes-of-action' uses; and
 - demonstration of a supporting planning and environmental management tools (eg. 'Port Land Use Plan' and subsequent 'Development Codes') to be used at the/precinct operational level of development to help achieve desired outcomes.

Figure 7.2 demonstrates a **potential** framework for such 'foundation documents' required under a 'strategic assessment' scenario.

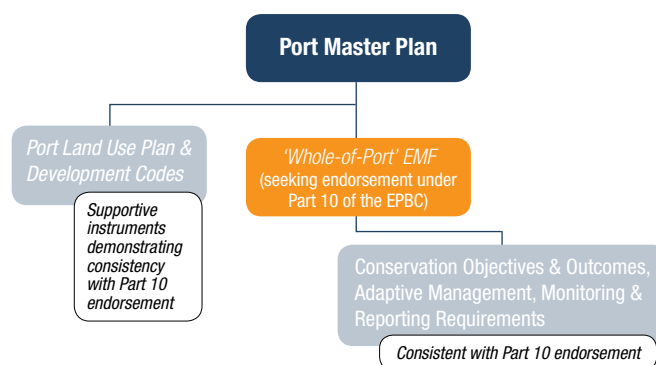


Figure 7.2: Potential Documentation hierarchy under Part 10 EPBC Assessment

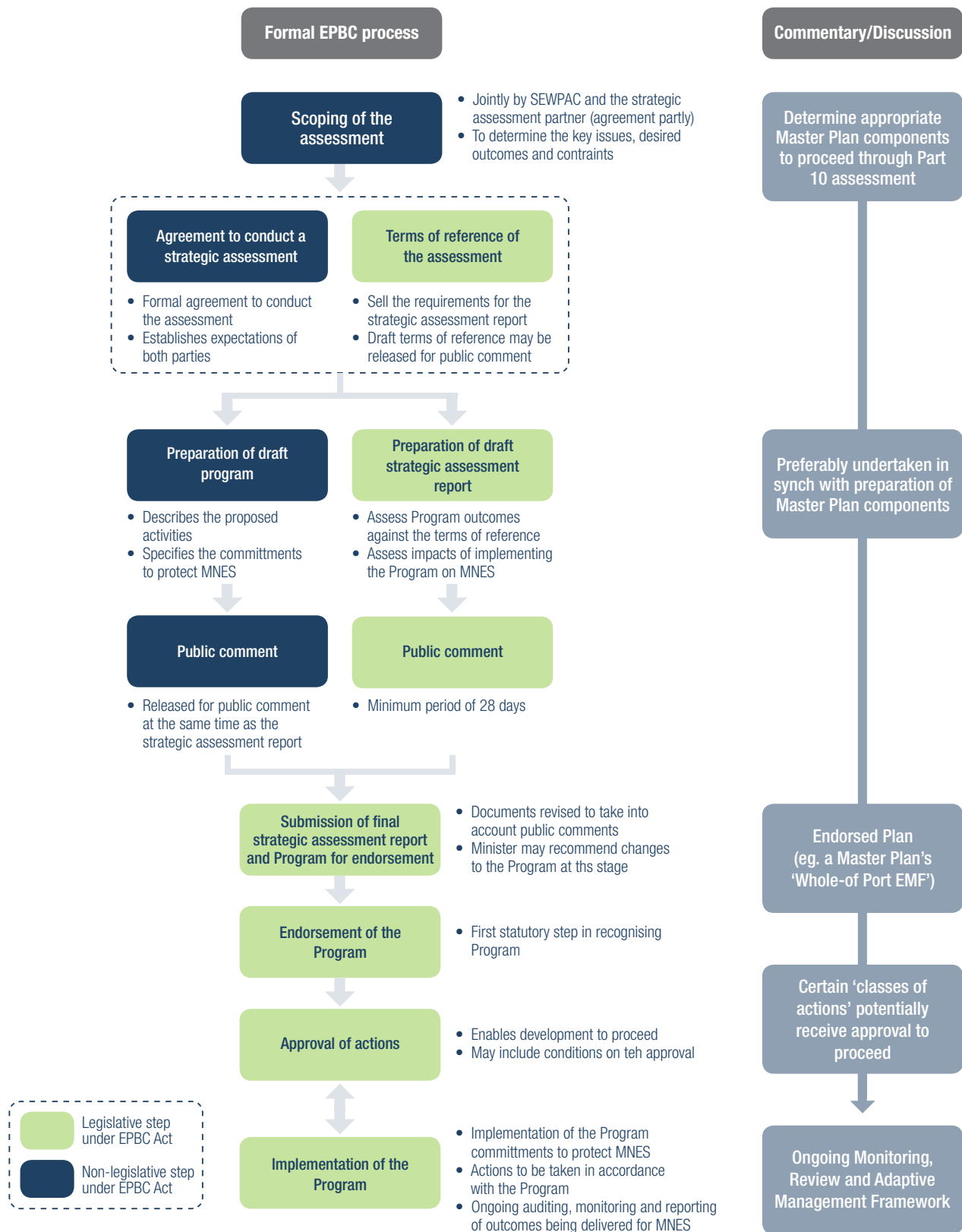


Figure 7.1: Regulatory process for strategic assessments under Part 10 of the EPBC Act

7.2.2 Use of Leading Practice Guidelines

In synch with the direction offered by the NPS, this ‘Leading Practice’ document may be used to assist master planning activities at Australian ports.

Individual ports could opt to follow and tailor the recommendations within this document, as relevant, to their own particular circumstances.

That is, ports could simply opt to develop their master plan in accordance with recommendations within this document (in particular the suggested content in Table 4.1) – demonstrating an industry-accepted approach to the process of preparing their long-term master planning documentation.

Equally, ports also wishing to have relevant components of their master plan assessed under ‘Strategic Assessment’ provisions of the EPBC Act, could undertake detailed scoping discussions with SEWPAC regarding this approach.

Put simply, this document could be used in two ways by those preparing a port master plan:

Master Plan Options	Relevant Situation
Option A	Port Corporation/Manager prepares Port Master Plan generally in accordance with this document; OR
Option B	Port Corporation/Manager prepares Port Master Plan generally in accordance with this document; AND opts to have the relevant components of their Master Plan considered for ‘Strategic Assessment’ under Part 10 of the EPBC (following more detailed discussions with SEWPAC and the relevant State/Territorial Government).

7.3 State Level

7.3.1 State Planning Policies

Typically under the various state/territory jurisdictions, ‘State Planning Policies’ are used to help regulate developments of either state significance or of major consequence to the community and/or environment.

It is possible that a ‘State Planning Policy’ with particular reference to ports, could be introduced within each jurisdiction with potential benefits including:

- clarifying/confirming the importance and systemic linkages of port nodes within the ‘whole-of-transport network’ – increasing the chance of ultimately achieving regulatory alignment between the various planning instruments enforced across the state/territory
- prescribing ‘master planning’ requirements for all ports within the jurisdiction.

Each jurisdiction will have differing regulatory framework structures – as such, this concept would need to be tailored to the individual regulatory system. In Queensland for example, the State Government is currently looking at developing a ‘Single State Planning Policy’ where such requirements could be included, rather than individual State Planning Policies as evident in other states.

7.3.2 State/Territorial based Strategic Assessment provisions

Australian states/territories may consider that a strategic approach to port master plan assessments (under relevant jurisdictional based regulations) may add significant regulatory and streamlining benefits to all non-MNES matters.

State/Territory based legislative provisions could facilitate this approach.

Western Australia’s regulatory provisions, for example, allow for certain proposals to be assessed ‘strategically’ under the Western Australian *Environment Protection Act, 1986*. Some ports are opting for this approach, including the Port of Bunbury who have chosen to have their ‘Structure Plan’ strategically assessed under these provisions.

A strategic approach to port master planning can potentially offer significant regulatory, productivity and economic value-adding advantages to state and national economies.

8. CONCLUSIONS & RECOMMENDATIONS

8.1 Overview

Enhanced master planning at and around Australian seaports can bring increased investment confidence and greater transparency for all stakeholders – the port itself, industry, government and environmental/community groups.

Looking forward, it is clear that port master planning within Australia must be broader in application – looking beyond the port boundaries – considering a range of economic, social and environmental interface issues.

It is also clear that a ‘one size fits all’ master planning approach will not be appropriate for Australia’s port industry. Master plans must be tailored to the individual context – however, are encouraged to use the key principles and suggestions contained in this report.

It is our view that if comprehensively developed, port master plans can:

- articulate the medium and long term ‘port vision’ to a wide range of stakeholders
- create additional economic value through increased industry and investment confidence
- assist in overall supply chain management by:
 - integrating the port into broader network consideration (by promoting greater understanding of the port needs within regional and local planning agencies)
 - ensuring that vital seaport (and logistic chain) infrastructure is delivered when and where it is needed (via well-considered staging options).
- maximise significant economic and productivity improvements through efficient management of critical infrastructure delivery and protection;
- provide increased environmental protection by identification of critical environmental values early in the design process; and
- address interface issues (social and environmental) in and around seaport areas (ie. help to inform port users, employees and local communities as to how they can expect to see the port develop over the coming years).

Key findings and recommendations of the study include:

- port master planning must be based on a ‘beyond the port’ methodology, rather than the traditional ‘introspective’ approach;
- policy alignment must be achieved through National-State-Region-Local planning frameworks
- port master planning frameworks should be generally consistent between jurisdictions
- enhanced governance support must be provided at the jurisdictional level and within organisations, to assist with comprehensive port master planning
- supporting frameworks/operational plans such as comprehensive Land Use Plans, Development Codes and Policies must support the Master Plan at the operational, ‘on the ground’ level
- regulatory/policy frameworks regarding ‘strategic assessments’ of master plans **should be further examined** to improve the identification, protection and management of environmental values and to address the need for regulatory streamlining.

Based on the work undertaken in this study, we therefore recommend the following ‘next steps’:

1. adoption of this document to guide/assist port master planning at Australian ports
2. advance discussions with relevant Commonwealth Departments regarding the relationship of Port Master Plans and ‘Strategic Assessments’ under Part 10 of the *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC)
3. continued strong advocacy for regulatory reform at the Local, State/Territory and Commonwealth levels to:
 - a. promote better alignment of strategic land use planning frameworks
 - b. protection of critical port infrastructure and corridors; and
4. undertaking a ‘Demonstration Case’ for a ‘Strategic Assessment’ of a port master plan.

INFORMATION SOURCES

Reports:

Commonwealth of Australia (2012): *A Guide to Undertaking Strategic Assessments*

Commonwealth of Australia (2012): *Strategic Assessments: Policy Statement for EPBC Act Referrals*

Commonwealth of Australia (1996): *Airports Act 1996*

Commonwealth of Australia (1999): *Environment Protection and Biodiversity Conservation Act 1999*

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ESPO (2010): *Code of Practice on Societal Integration of Ports*

ESPO (2012): *Towards excellence in port environmental management and sustainability*

GHD (2009): *Background Paper 4 for the NPS - Examples of best practice port planning overseas*

IAPH (1990): *Port Planning Guidelines*

Infrastructure Australia (2012): *National Ports Strategy*

OECD (2012): *Draft for adoption – Competitiveness of Port-Cities: Synthesis Report (report for consideration of Working Party on Territorial Policy in Urban Areas), unpublished.*

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Queensland Government (2012): *Great Barrier Reef Port Strategy*

Seattle City Council (2011): *Comprehensive Plan*

Sprott (2011): *Sustainable Seaport design, development and operation: Singapore, China, The Netherlands, UK, USA and Canada (May-June 2011)*

State of Washington (1990): *The Growth Management Act (GMA)*

State of Washington (2009): *Final Bill Report - ES1959*

State of Washington (2009): *Governor's Container Ports Initiative: Recommendations of the Container Ports and Land Use Work Group Main Report*

UK Department of Transport (2008): *Port Master Plan Guidance - Consultation Document*

UK Department of Transport (2009): *Guidance of the preparation of port master plans*

WA Government (2011): *Optimising our port infrastructure and planning for growth*

Other Websites:

American Association of Port Authorities (AAPA) 2012:
www.aapa-ports.org/

Commonwealth of Australia
<http://www.environment.gov.au/epbc/>

European Commission
<http://ec.europa.eu/environment/eia/sea-legalcontext.htm>

IAPH
<http://www1.iaphworldports.org/index.html>

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<http://www.portmetrovanancouver.com>

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http://www.minister.infrastructure.gov.au/aa/speeches/2012/AS36_2012.aspx

