



Australian Government

Department of Finance and Deregulation



Information Paper

Moorebank Intermodal Terminal Project

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Moorebank Project Office

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Introduction

This paper provides information on a feasibility study, which is considering economic and financial analysis and technical feasibility for a proposed intermodal terminal at Moorebank in south western Sydney.

This information paper provides general information on the feasibility study, particularly:

- The background;
- The rationale for a proposed intermodal terminal; and
- The feasibility study process currently underway.

This information paper has been prepared by the Moorebank Project Office which has been established within the Department of Finance and Deregulation to conduct the intermodal terminal feasibility study process.

Background

What is an Intermodal Terminal?

An intermodal terminal is a facility set aside for freight to be transferred between road and rail. It includes a yard and potentially warehouses linked to the rail network. Sometimes these are referred to as “inland ports” as they function in a similar fashion to a port, bringing together two modes of transport to transfer goods on to the next step in the supply chain.

Shipping containers are brought to the intermodal terminal by rail and stored for short periods, with goods being taken away by truck or continuing on by rail for distribution to other locations. Intermodal terminals are common throughout the world, including Australia.

Australia’s competitiveness relies on our ability to move goods and services from their source to our cities and transport hubs and then on to world markets in Asia, Europe and North America. Key to this is the ability to move these products as efficiently as possible by moving more freight off our roads and on to trains.

An intermodal terminal at Moorebank would build on the Australian Government’s \$3.4 billion investment in the interstate rail network.¹

Boosting rail freight’s role in moving goods through the Sydney region has the potential to improve Australia’s national productivity and better manage the rate of growth of traffic on our roads.

Establishment of Intermodal Terminal Study

The Australian Government allocated \$35.5 million over two years in the 2010-11 Federal Budget (May 2010)² to undertake a feasibility study for a proposed intermodal terminal at Moorebank.

The feasibility study is exploring a variety of issues relating to the proposed Moorebank site, including technical, financial, economic, legal, social and environmental feasibility. The study includes community engagement to ensure all relevant issues are considered. The Moorebank Project Office will report to the Government with the findings of the study to enable Government consideration of the project.

Governance

To undertake the feasibility study process, the Moorebank Project Office has been established within the Federal Department of Finance and Deregulation. The Moorebank Project Office has overall responsibility for managing the study with representation from the Department of Defence and the Department of Infrastructure and Transport.

Overseeing the study’s tri-departmental team is a Steering Committee comprising the three Departments. The Moorebank Project Office provides administrative support to the Steering Committee. The Special Minister of State, the Honourable Gary Gray MP is the responsible Minister.



Sydney has the second largest container port in Australia, serving the largest market nationally. Some 99% of Australia’s international trade is transported by sea.

1,2 Federal Budget 2011-12 www.budget.gov.au/2011-12

Objectives

The feasibility study takes into account the following long-term objectives:

1. Boost national productivity over the long term through improved freight network capacity and rail utilisation.
2. Create a flexible and commercially viable facility and enable open access for rail operators and other terminal users.
3. Minimise impact on Defence's operational capability during the relocation of Defence facilities from the Moorebank site.
4. Attract employment and investment to south western Sydney.
5. Achieve sound environmental and social outcomes that are considerate of community views.
6. Optimise value for money.

Environmental Assessment

As part of the study, the Moorebank Project Office is carrying out an environmental assessment of the site and potential environmental impacts. More information about this process appears in the section of this paper regarding environmental assessment.

Reporting Timeframe

Work on the study began in mid-2010 following the allocation of Budget funding for the establishment of the Moorebank Project Office.

It is expected that the Australian Government will consider the outcomes of the study in 2012 and, subject to planning outcomes and Government approval, the staged development of an intermodal terminal could commence in 2013.

Policy Context

The proposed Moorebank intermodal terminal project is one part of an overall commitment by the Australian Government to investing in rail in order to make our transport systems more efficient and better integrated.

Significant funding has been invested in the Australian Rail Track Corporation (ARTC) towards rail projects to boost national productivity.

The Australian Government has set aside some \$3.4 billion over six years for development of the interstate rail freight network, which the Australian Rail Track Corporation is using to build 235 kilometres of new track and upgrade a further 3,771 kilometres of existing track.³

The Australian Rail Track Corporation has identified a range of benefits, including fewer trucks on interstate routes for each freight train, reduced consumption of fuel and non-renewable energy and improved road safety.⁴

The Moorebank study will consider the potential for the intermodal terminal to address national policy solutions in relation to both a rail shuttle connecting Port Botany and Moorebank, and an interstate rail freight facility that would become part of a national rail freight network.

Historical Development

Addressing Sydney's lack of freight capacity has been under consideration for some years, having been recognised as a barrier to the future development of the city and NSW more generally. An intermodal terminal at Moorebank was first proposed by the Australian Government in 2004. Citing the location as ideal for a 'vital road and rail freight hub'⁵ the Government described the proposed new freight terminal as a 'critical element in the national transport network ... [that] will create thousands of jobs and act as an incubator for new transport-related industry in Sydney.'⁶

In 2005, the NSW Government's Freight Infrastructure Advisory Board stated that an intermodal terminal facility at Moorebank was a 'key component in meeting Sydney's intermodal capacity needs.'⁷

There have since been a number of NSW State Government publications, including the NSW Premier's Department freight review and the Metropolitan Plan for Sydney 2036⁸ that have acknowledged the need for intermodal terminals in the Sydney Basin and identified Moorebank as a potential location for such a development.

In 2010 and 2011, Infrastructure Australia, the national advisory organisation for infrastructure development, identified the Moorebank intermodal precinct as part of its national infrastructure priority list.⁹

In February 2011, Infrastructure Australia released the National Land Freight Strategy Discussion Paper¹⁰ that identifies the need to integrate freight and land use planning. A new intermodal terminal capacity at Moorebank was identified in the paper as a key priority.

Industry has contributed to the discussion regarding freight capacity in Sydney. Recently the Property Council of Australia commissioned a study by the Centre for International Economics, which concluded that resolving the port freight capacity issues was the most important infrastructure project for Sydney in terms of economic benefits delivered.¹¹

The Property Council of Australia rated Sydney port intermodal freight link developments including the 'development of Moorebank, Ingleburn, Minto and Eastern Creek and the associated road and rail infrastructure' as Sydney's top transport priority.¹²

"The Government's [funding] investment is addressing the increasing freight task in our urban centres. The Government established the Moorebank Project Office in 2010, to work through the issues and options for the development of an intermodal terminal at Moorebank on Commonwealth owned land. Moorebank represents a significant opportunity to shift freight from Botany Bay onto rail — equal to the capacity of more than one million trucks that may otherwise use Sydney's roads each year from 2020. This project is important for Sydney and will, subject to environmental and other approvals processes, provide a nationally significant freight movement improvement at our second largest container port."

Source: Our Cities, Our Future: A National Urban Policy for a Productive, Sustainable and Liveable Future, Statement by the Honourable Anthony Albanese MP, Minister for Infrastructure and Transport, 10 May 2011.

⁵ "Planned Expansion for Puckapunyal Military Area", Media Release, Senator The Hon Robert Hill, Minister for Defence, Leader of the Government in the Senate, 27/09/2004++

⁶ "Railing Port Botany's Containers: Proposals to Ease Pressure on Sydney's Roads", Report for Freight Infrastructure Advisory Board, NSW Government, page 4, July 2005

⁷ "Railing Port Botany's Containers: Proposals to Ease Pressure on Sydney's Roads", Report for Freight Infrastructure Advisory Board, NSW Government, page 4, July 2005

⁸ "Metropolitan Plan for Sydney 2036 Strategic Direction C. Transport for a Connected City" December 2010; Infrastructure Implementation Group review of the report of the NSW Freight Advisory Board, May 2007

⁹ http://www.infrastructureaustralia.gov.au/2011_coag/files/Moorebank_Intermodal_Terminal_Appraisal2010.pdf

¹⁰ National Land Freight Strategy, Discussion Paper, Infrastructure Australia, February 2011

¹¹ "Investment in transport in New South Wales - Economic impacts", Centre for International Economics, Prepared for Property Council of Australia, January 2011

¹² A New Era in Infrastructure Investment, Property Council of Australia (NSW Division), February 2011

Rationale for an Intermodal Terminal

The Australian Government is committed to investing in Australia’s infrastructure as a key enabler to productivity, economic growth and national prosperity. Federal investment in this respect is targeted to economic infrastructure including port facilities and freight networks.

Freight Growth

It is forecast that Australia’s freight container requirements in 2020 would be double what they were in 2006.¹³

This growth means Sydney, like many major cities, faces a major challenge to manage its container freight traffic including addressing the critical shortage in freight capacity.

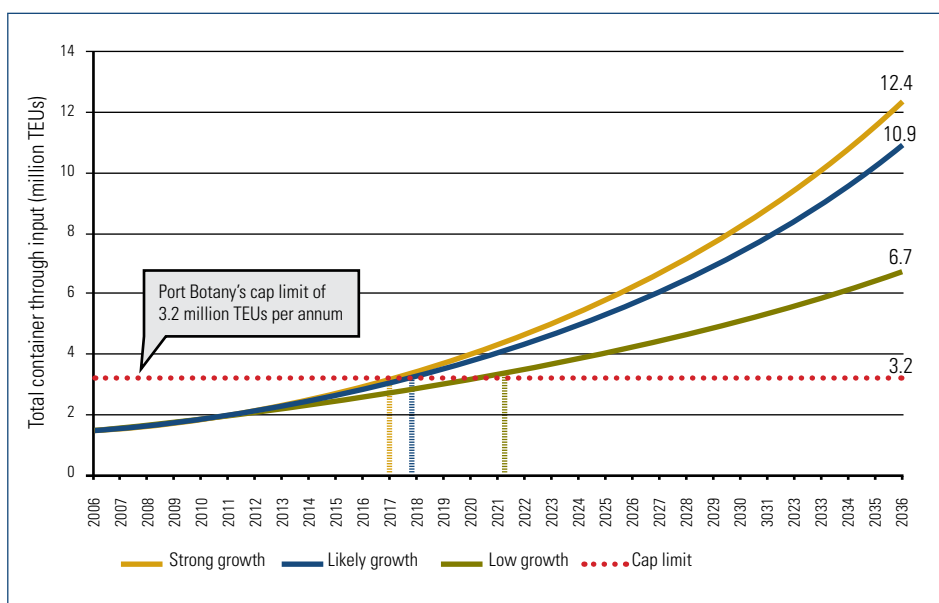
Port Botany is Australia’s second largest container port and is experiencing considerable growth in freight volumes. For the first time ever in 2010-11, container traffic through Port Botany exceeded two million containers (known as Twenty-Foot Equivalent or TEUs). Sydney Ports Corporation recorded its tenth annual container throughput record.¹⁴

The importance of Port Botany to Sydney and to NSW’s economy is considerable. Based on available data, it is estimated that the total annual value of Port Botany to the economy is of the order of \$3.3 billion.¹⁵

Forecasting conducted for the Commonwealth indicates that the number of containers passing through Port Botany would at least double and could even

treble depending on the strength of future demand. It is estimated that by 2030, container traffic would reach 7 million containers.¹⁶ The following graph, which shows three growth scenarios for containerised freight in NSW to 2036, indicates the extent of potential growth depending on economic conditions.

Graph 1 - Predicted freight container growth 2006-2036¹⁷



Forecasting indicates that the number of containers passing through Port Botany would grow from approximately 2 million today to as many as 7 million containers by 2030.¹⁸

Nearly-two thirds of Port Botany’s container freight is travelling to or from western Sydney, the majority by road.¹⁹



13 Deloitte modelling using Sydney Ports Corporation data
 14 Sydney Ports media release, 9 August 2011
 15 Economic Impact Study of Sydney’s Ports 2001/02, a report prepared for Sydney Ports Corporation by EconSearch Pty Ltd, June 2003
 16, 17, 18 Deloitte modelling using Sydney Ports Corporation data
 19 Deloitte analysis

The Current Supply Chain

Sydney is Australia’s largest and most densely populated city and is therefore a major goods importer and consumption point for the country. Goods are transported by road and rail, particularly from Melbourne and Brisbane, and by sea and air through Port Botany and distributed to the greater Sydney region.

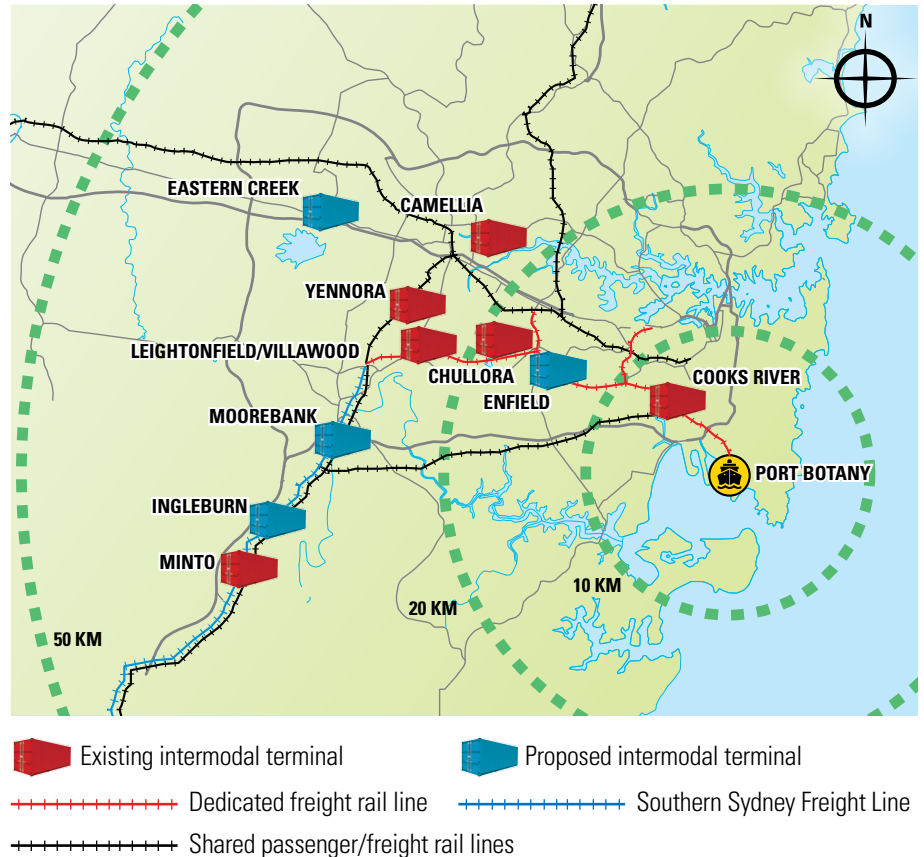
At present, the freight distribution system operates radially from the busy Port Botany area. More than 90% of containers passing through Port Botany have their origin and destination within the Sydney Greater Metropolitan Area. Currently the vast majority of this freight travels by road, adding to congestion on important routes such as the M5/Hume Highway.

Analysis conducted for the Moorebank Project Office indicates that nearly two thirds of this container freight (64%) travels to and from western Sydney to local Government areas including Liverpool, Fairfield, Blacktown, Holroyd, Auburn, Parramatta, Campbelltown, Penrith and Bankstown. This has been forecast to grow to 70% by 2030.²⁰

From Road to Rail

The majority of this freight now travels by road through Sydney to its destinations around the city and beyond. Approximately 16% of port freight travels by rail.²¹ The NSW Government plans to double the proportion of container freight movement by rail through NSW ports by 2020, particularly through Port Botany.²²

Diagram 1 - NSW Intermodal Terminal Network²³



Trucks carrying freight have a considerable impact on Sydney’s roads and contribute to bottlenecks, urban congestion, increased air pollution, lost productivity and additional freight costs. Trucks comprise a significant proportion of traffic on major routes from

Port Botany to western Sydney, such as the M5, which have seen average peak speeds decline in recent years. Further growth in freight traffic would therefore put Sydney’s road network under additional pressure.

The morning peak period on the M5 and M5 East Motorways now officially begins at 5.15am and lasts three hours, a recent NSW Government report on urban roads found.²⁴

²⁰ Deloitte analysis
²¹ Port Botany Landside Improvement Strategy Rail Update, 16 August 2011
²² NSW State Plan 2021 <http://2021.nsw.gov.au/>
²³ "Towards Co-modalism: Capacity Constraints & Supply Chain Performance – Intermodal (Working Paper 1, Appendix 2) Report", by Booz and Co for the National Transport Commission, 2009
²⁴ "Key Roads Performance Report", Roads & Traffic Authority, September 2011, p. 7

Drivers for Additional Intermodal Terminal Infrastructure

The Moorebank Project Office has identified a number of key drivers in considering the need for additional intermodal terminal infrastructure in Sydney:

- **The continued strong growth in freight volumes** - Port Botany has seen 7% per annum growth over the past five years and is expected to grow at 6.7% per annum over the next 25 years. Interstate freight is expected to grow at approximately 3% per annum between 2010 and 2030.²⁵
- **Destination of import containers** - an estimated 90% of import container cargo traded through Port Botany is destined for locations within the Sydney Greater Metropolitan Area.
- **Port Botany's planning cap** (container volumes) - Port Botany is currently subject to a cap on throughput of 3.2 million containers per annum which, at current rates of growth, is expected to be reached between 2017 and 2021.²⁶ The cap is imposed through planning restrictions on the current expansion works and does not reflect the physical capacity of the port.
- **Limited capacity within the existing intermodal terminal network** - the current intermodal terminal network is fragmented and its capacity and effectiveness is constrained due to a number of issues including space limitations, accessibility to rail paths shared with passenger rail and vertical integration at existing terminals.
- **Road congestion** - heavy congestion is already being experienced at Port Botany and on the motorway network and would be aggravated by future growth in port volumes and associated truck movements.



Managing Bottlenecks

The study is examining ways to manage this growing source of pressure on Sydney and to enable Port Botany to function more effectively. The transfer of freight from road to rail would help relieve traffic bottlenecks and urban congestion, reducing freight costs and delays.

While roads will always play a pivotal role in managing freight, increased use of rail could considerably relieve the growing pressure on our roads. There is a range of potential benefits from this that relate to

efficiency, productivity and general quality of life. More efficient freight distribution would mean reduced costs and greater productivity. For motorists, it would mean urban congestion is better managed, less time spent in traffic and road safety is enhanced. The Moorebank intermodal terminal study is considering these issues within the context of assessing overall feasibility.

²⁵ Deloitte modelling using data provided by ARTC
²⁶ Deloitte modelling using Sydney Ports Corporation data

Why Moorebank?

Location

The Moorebank intermodal terminal site is Commonwealth owned land occupied by the Department of Defence. It is approximately 220 hectares in size and 2 kilometres in length.

Located south of the M5 South West Motorway and west of Moorebank Avenue, it is bordered by the Georges River to the west with the Southern Sydney Freight Line route directly opposite on the other bank of the river.

To the east of the proposed site is a mixture of private industrial and Defence land. To the south is the Holsworthy army base. The site is approximately 30 kilometres from Port Botany by road.

The site currently houses the School of Military Engineering and other Defence units. It forms parts of the Liverpool Military Area, which includes a range of Defence facilities.

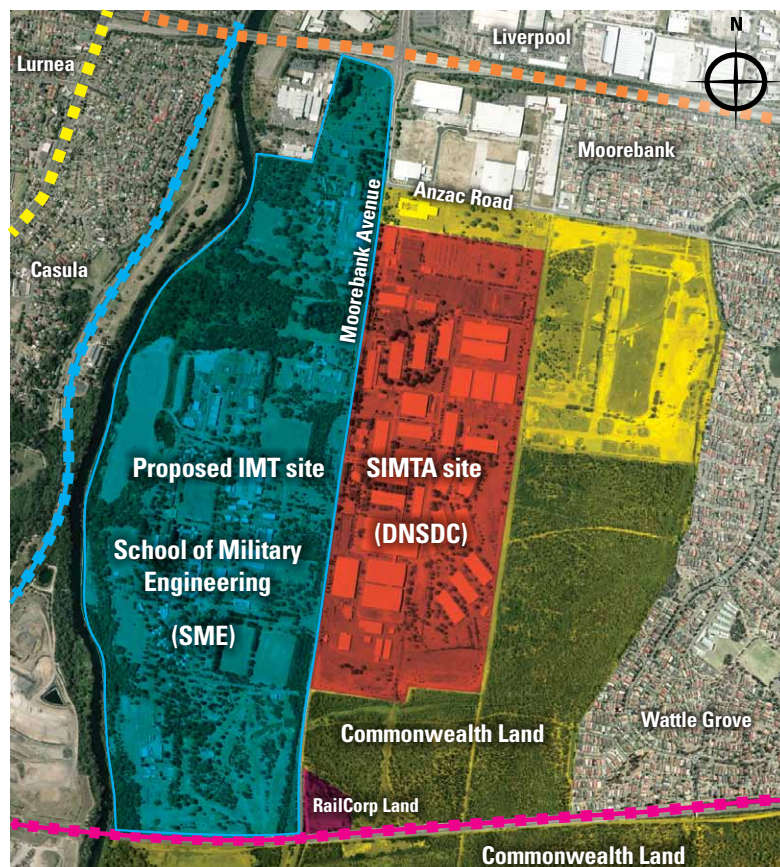
The Department of Defence is developing complementary plans to relocate the School of Military Engineering and the other Defence units to enable an intermodal project to proceed, should the Australian Government so decide.

Potential Advantages

Potential advantages of this site currently under consideration by the Moorebank Project Office include:

- Size and topography.
- Proximity to key transport corridors including the Southern Sydney Freight Line, main interstate rail line and the M5 and M7 motorways.

Diagram 2 – Proposed Intermodal Terminal site



■ ■ ■ ■ ■ Hume Highway

■ ■ ■ ■ ■ Southern Sydney Freight Line

■ ■ ■ ■ ■ South Western Motorway - M5

■ ■ ■ ■ ■ East Hills Passenger Line

- Proximity to major container destinations and origins and industrial centres in Sydney's west and south west including Moorebank, Bankstown, Prestons and Ingleburn.

The site is located at a sufficient distance from Port Botany to make rail a commercially viable alternative to road. It is of sufficient size to handle both import-export (IMEX) services operating as a shuttle to and from the port and interstate rail demand.

The site offers the ability to "future proof" by reserving space for development of facilities over the longer term as demand requires it.

SIMTA

Directly adjacent on the eastern side of Moorebank Avenue, is the Defence National Storage and Distribution Centre (DNSDC), which is leased to Defence but owned by Stockland. For clarity, this site is the subject of a separate, private sector proposal by the Sydney Intermodal Terminal Alliance (SIMTA) to the NSW Government to develop an intermodal terminal.

Potential Benefits

Economic Benefits

There are a number of potential economic benefits that may result from an intermodal terminal at Moorebank that are being considered as part of the feasibility process. They include the following:

- Employment – an intermodal terminal would attract significant employment to south western Sydney, including direct employment at the terminal and associated on-site activity once it is fully operational.²⁷
- Operating cost reductions – these benefits reflect price differentials between direct road costs and direct rail costs for the distance transported, inclusive of additional handling costs. Significant freight operating costs could be saved each year by moving more freight through an intermodal terminal at Moorebank.²⁸
- Reduced road accident costs and road congestion compared with what would otherwise have been the case.
- Reduced environmental costs associated with road transport – in particular, a reduction in greenhouse gas emissions and other air pollution.
- Deferred infrastructure – this benefit reflects the saving achieved by deferring motorway investment as a result of reduced rate of growth in road freight trips between Port Botany and south western Sydney.
- Improved freight service reliability and availability – these benefits relate to the improved quality of service for consumers of rail services relative to road services.



Significant freight operating costs could be saved each year by moving more freight through an intermodal terminal at Moorebank.²⁹

²⁷ KPMG analysis
^{28, 29} Deloitte analysis

Environmental and Social Benefits

Studies are being undertaken as part of the feasibility process in relation to environmental and social benefits that would result from an intermodal terminal.

Heavy congestion is already being experienced at Port Botany and on the M5 route, impacts that will be aggravated by predicted future growth in port volumes and associated truck movements.

Road freight produces higher externality costs on a per tonne basis relative to rail and sea, including greater air pollution and greenhouse gas emissions, fuel consumption and waste generation, noise and vibration, time delays, injuries and fatalities from road accidents, infrastructure maintenance and other congestion costs. Therefore, any transition of freight from road to rail will improve these environmental and social outcomes.

Indicatively, each freight train could replace 110 interstate trucks and up to 45 trucks travelling to and from Port Botany.³⁰

Road and rail: some environmental comparisons³¹

- Using rail to transfer freight has the potential to reduce diesel fuel use. It has been estimated that between Port Botany and Moorebank, trucks use an average of 8 litres of diesel for each container, compared with 4 litres for each container transported by train.
- Increasing the use of rail to transfer freight has the potential to reduce greenhouse gases associated with diesel fuel. Between Port Botany and Moorebank, trucks generate more kilograms of carbon dioxide (CO₂) equivalent greenhouse gases for each container compared with each container transported by train.
- For every 100,000 containers switching from road to rail from Port Botany to Moorebank, an estimated 350,000 litres of diesel fuel can be saved and 950 fewer tonnes of CO₂ equivalent greenhouse gases generated. In 2030 alone, savings in total diesel usage have been estimated at 4 million litres and reduced carbon emissions at 11,000 tonnes.



30, 31 Deloitte analysis

Environmental Considerations

Environment Protection and Biodiversity Conservation (EPBC) Act Assessment Process

Under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, any project that could significantly impact Commonwealth land is referred to the Minister for Sustainability, Environment, Water, Population and Communities.

In August 2011, the intermodal terminal project was referred by the Moorebank Project Office to the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC). The referral documentation explained the initial assessment of environmental issues and indicated what future assessment may be required.

The Minister was required to consider the project referral and determine the appropriate assessment process. Following a period of public comment, it was determined that:

- The Moorebank Intermodal Terminal Project is a Controlled Action under the Act and will require the approval of the Minister for Sustainability, Environment, Water, Population and Communities before it can proceed.
- An Environmental Impact Statement (EIS) will be required.

SEWPaC will develop guidelines for the details to be included in the EIS. Submissions from the public on the referral will be taken into consideration by SEWPaC when drafting the guidelines for the EIS. The Moorebank Project Office

will then prepare an EIS in accordance with SEWPaC's guidelines. Every phase of the SEWPaC assessment process has community comment processes.

Questions about the referral process should be referred to SEWPaC, which has responsibility for managing this process.

Initial environmental studies have been undertaken to date that have been included in the project referral. The referral document is available on the SEWPaC website at www.environment.gov.au

Relevant Issues

Studies will consider the impact assessment and proposed mitigation measures for the following:

- **Traffic and transport** – an assessment of the impact of traffic generated by the construction and operation of the Moorebank intermodal terminal on the surrounding road network.
- **Noise and vibration** – an assessment of impacts of the noise and vibration generated by the construction and operation of the Moorebank intermodal terminal.
- **Biodiversity** – an assessment of the impact on flora and fauna including the clearing of on-site vegetation, and associated offset or compensatory habitat requirements, as well as an assessment of the benefits of restoration and rehabilitation of any on-site conservation area.

- **Heritage** – including an assessment of the impacts of the project on both Aboriginal and European heritage.
- **Air quality** – an assessment of the impacts of the project, including emissions from freight trains, terminal equipment and trucks using the Moorebank intermodal terminal site. The assessment will also consider the net air quality benefit of reductions in overall truck travel.
- **Visual impacts** – an assessment of the impacts of the project on the viewshed for the surrounding communities.
- **Social and economic impacts** – including the impacts on the local community cohesion and functioning and impacts to the local and regional economy.
- **Stormwater and flooding** - including an assessment of any impacts associated with development of the site on flooding of the Georges River.
- **Contamination** – an assessment of potential contamination within the site and if found, proposed measures to mitigate and remediate the site to ensure construction and operation of the site may be undertaken safely.

Feedback received from the community is an important input to these studies and will be considered in the development of the environmental assessment and the broader feasibility process.

Site Investigations

A range of site investigations are being conducted in relation to the intermodal terminal project including air quality monitoring, meteorological recording, ambient noise monitoring, heritage and ecological surveys, traffic counts and other activities to gather data. Air quality and ambient noise monitoring will gather “baseline” data on current conditions.

Future Steps

At a future time the environmental assessment documentation will be placed on public exhibition and on the SEWPaC website. At that time members of the community may make formal submissions to SEWPaC presenting their issues and views on the project.

Further community information sessions are proposed during the public exhibition period, to provide the community with an opportunity to meet members of the project team, and to ask questions and obtain information about the Environmental Impact Statement, the specialist studies and other project information.

Following the closure of the public comment period, the Moorebank Project Office would finalise the assessment and submit it to SEWPaC for consideration of project approval, and if so, with what conditions.

Importantly, should the project be approved, before any construction can occur further detailed assessments and approvals would be required as part of a comprehensive design process undertaken by the future developer and operator of the intermodal terminal.

Further Information

Website

To learn more about the Moorebank intermodal terminal feasibility study, visit the project’s website at:

www.finance.gov.au/moorebank

It contains a range of information including project background, frequently asked questions, information about site investigations, copies of community updates and other material. The website also provides details of how to join the subscription email service for project updates.

Feedback

A communications and consultation team has been established to assist the community and to respond to questions. The team provides a telephone and email information service.

For further information please contact the Moorebank Project Office communications and consultation team on:

1300 382 239 during business hours

or via email:

moorebank@finance.gov.au

