

Infrastructure Australia

Project Business Case Evaluation

Project name	Moorebank Intermodal Terminal
Rating	Priority Project
Date of IA Board rating	7 September 2016

Location	South-West Sydney, New South Wales
Proponent	Moorebank Intermodal Company
Project timeframe	Construction of rail connection and import-export terminal to commence late 2016. Other works to commence in 2017.

Evaluation Summary

Most landside freight movements to and from Port Botany are made by road. As the volume of freight passing through the port increases, truck movements increase, causing congestion on roads connecting to the port. With freight movements through Port Botany forecast to increase at a rate of 3-4% per year over the next 25 years, truck movements to and from the port will continue to increase. Unless more freight is moved by rail, congestion on roads around the port will continue to grow, reducing the efficiency and productivity of Sydney's freight network.

The development of an intermodal freight terminal at Moorebank is part of a long-term strategy to increase the carriage of freight by rail. Other parts of the strategy include construction of the Southern Sydney Freight Line, completed in 2012, and proposed improvements to the Port Botany Line which are now under development. This strategy is supported by both the Australian and New South Wales governments.

The intermodal terminal will include an import-export terminal with an ultimate capacity of 1.05 million containers (TEU) per year, which will process containers moving to and from the port. The terminal will also include an interstate/intrastate terminal with an ultimate capacity of 0.5 million containers per year, and associated warehousing and ancillary facilities. It will be connected by rail to the Southern Sydney Freight Line, and by road to the M5 near its junction with the M7.

The proponent estimates the cost of developing the proposed intermodal terminal at \$1,675 million¹, while the benefits expected to be derived from the project are estimated at \$2,887 million. The proponent estimates the project will deliver a net economic benefit of \$1,212 million, as represented by the net present value, with a benefit-cost ratio of 1.7. Infrastructure Australia considers that the proponent's cost-benefit analysis is robust, and is confident the project will deliver benefits in excess of its costs.

The project was previously listed on the Infrastructure Priority List at the then *Threshold* level in February 2015. The proponent has sought an updated listing on the Infrastructure Priority List as part of its application for designation of the project under the Income Tax Assessment (Infrastructure Project Designation) Rule 2013.

¹ All costs and benefits in this evaluation are expressed in 2015 prices, and have been discounted at a 7% real discount rate. The net present value and benefit-cost ratio have been estimated on the basis of P50 capital cost estimates.

1. Strategic Context

Port Botany is Australia's second largest container port, accounting for almost 30% of Australia's container exports and imports. Container trade at Port Botany has risen rapidly in recent years, with growth of 7% per year over the five years to 2014. Growth in container throughput is anticipated to continue over the next 30 years, albeit at a slightly slower rate. NSW Ports, the Port Botany lessee, has forecast that annual throughput will grow from 2.3 million containers (TEU) today to 7.5-8.4 million by 2045.

Strong growth in the container trade will require improved landside connections for Port Botany. The *Australian Infrastructure Audit* (2015) found that the national land freight task is expected to grow by 80% between 2011 and 2031, and that rail freight will need to play a growing role in the movement of goods between ports and freight terminals.

The NSW Government has a strategic objective to increase the share of containers on rail to and from Port Botany from 14% currently, to 28%, as set out in NSW Freights and Ports Strategy. NSW Ports is targeting a slightly higher increase in the share of containers moved by rail, from around 0.3 million today to 3 million by 2045.

Development of an intermodal terminal at Moorebank will enable more containerised freight to be moved to and from Port Botany by rail, instead of road. It will also facilitate increases in interstate rail freight. The development is intended to increase national and state productivity by improving efficiency and freight throughput at Port Botany and through the Sydney freight network. The Moorebank precinct has been identified by the NSW Government as a key strategic location for increasing intermodal capacity.

2. Problem Description

At present, the majority of landside freight movements to and from Port Botany are made by road. There is already significant road congestion in and around Port Botany and Sydney Airport, and this is growing as freight volumes grow. For example, the M5 East carries more than 8,000 trucks per day. Congestion is a problem throughout the day, and, at peak times, speeds can reduce to 20-30% of the speed limit in some parts, imposing a major economic cost.

The lack of appropriate landside infrastructure for distributing containers across Sydney, and limited intermodal terminal capacity, add to the problem. Sydney's current intermodal terminals are generally small, with limited capacity to expand. Moorebank Intermodal Company estimates the capacity of the existing intermodal terminals in Sydney to be no more than around 1 million containers (TEU) per year. An increasing share of Sydney's industrial activity is occurring in west and south-west Sydney, which are not well served by Sydney's current intermodal freight terminals.

These issues, and other issues with the reliability and capacity of the rail connection to Port Botany, have led to a reduction in the share of freight transported via rail from the port over recent years. This is exacerbating the problem of road congestion in around the port.

3. Project Overview

The proposed project is the development of an intermodal terminal on a 240 hectare site at Moorebank in south west Sydney. Part of the site is owned by the Commonwealth, and was formerly used by the Department of Defence's School of Military Engineering. A second part of the site is owned by Sydney Intermodal Terminal Alliance (SIMTA)².

The whole-of-precinct development is subject to an agreed master plan. The development includes:

- an import-export terminal with an ultimate annual capacity of 1.05 million containers (TEU) to transport freight by rail to and from Port Botany
- an interstate terminal with an ultimate annual capacity of 0.5 million TEU
- up to approximately 850,000 square metres of associated warehousing
- ancillary facilities to support the freight precinct.

² At the time of this evaluation, SIMTA was a consortium of two freight logistics companies, Qube and Aurizon. SIMTA is expected to become a wholly owned subsidiary of Qube shortly after this evaluation is finalised.

The terminal will be connected by rail to the Southern Sydney Freight Line, and by road to the M5 near its junction with the M7.

The import-export terminal is expected to be operational in early to mid-2018, with an initial annual capacity of 250,000 TEU, and the interstate terminal is expected to be operational by the end of 2019, also with an initial capacity of 250,000 TEU. The terminal will be an open access facility.

In June 2015, Moorebank Intermodal Company and SIMTA executed agreements under which the private sector will finance, construct and operate the terminal. SIMTA's revenue will be generated through container handling fees. The Australian Government, through Moorebank Intermodal Company, has a limited role in:

- funding the works to remediate and provide the former School of Military Engineering site in a state suitable for industrial use
- funding the rail connection between the Southern Sydney Freight Line and the terminals
- contributing to the funding of voluntary planning contributions and the upgrade of Moorebank Avenue
- obtaining NSW and Commonwealth concept planning approvals for the development on the Commonwealth-owned land
- receiving a rail access charge (which is independent of throughput volumes) and, as landlord, receiving distributions from rental streams
- monitoring and enforcing open access requirements on the terminal operator.

4. Options Identification and Assessment

In developing the proposed project, the proponent considered a range of alternatives. These are considered in detail in the project's Environmental Impact Statement.

Options considered included:

- Consideration of a 'no build' alternative. This was rejected early on due to significant economic and social consequences of not proceeding with any project
- Consideration of other intermodal terminal sites in Sydney. This assessment concluded that the proposed Moorebank site best meets the need for additional intermodal terminal capacity in south-western Sydney. It is the only site of sufficient size to meet the identified demand for both import-export (IMEX) and interstate intermodal terminal facilities, while also providing the benefits of a location close to the identified market and close to major road and rail corridors
- A detailed analysis of site layout and functionality options for the project site. This evaluation followed a six step process that used multi-criteria analysis to rank options. Various design layouts and functional options were developed for the project site. The initial technical options focused on different markets (IMEX, interstate and bulk) or combinations of markets. The options also varied in regard to rail and road connections and the subsequent impacts of these connections.

Following this process, four technical site layout options were shortlisted and ranked, and subjected to detailed comparative assessment considering environmental, technical and economic criteria. The preferred option was to develop both an import-export terminal and an interstate terminal, as this would ensure best use of the road and rail infrastructure connecting to the site. This option also includes the establishment of a conservation area along the western and south-eastern boundaries of the project site.

5. Economic Evaluation

A cost-benefit analysis for the development of an intermodal terminal on the Australian Government owned part of the site was prepared by the Australian Government in 2012. As part of the process to finalise the agreement between Moorebank Intermodal Company and SIMTA, that cost-benefit analysis was updated in 2015. The updated analysis incorporated higher capital costs to reflect the accelerated opening of the interstate terminal and the accelerated development of warehouses across the intermodal precinct, and a slower ramp-up of intermodal demand which is offset by higher utilisation of on-site warehousing.

Using a real discount rate of 7% per year and P50 capital cost estimates at 2015 prices, the proponent's stated benefit-cost ratio estimate was 1.7, and the stated net present value estimate was \$1,212 million over a 30-year

evaluation period. This is based on total benefits of approximately \$2,887 million, offset by total costs of approximately \$1,675 million, both in present value terms.

The benefits of the project can be categorised into private benefits and public benefits. The private benefits are those which accrue to the industry (e.g. operating cost savings), while the public benefits are those which accrue to users (e.g. travel time savings for general passengers and freight, and accident cost savings) and non-users (typically externalities e.g. environmental externality benefits and decongestion benefits).

Infrastructure Australia considers that the proponent’s cost-benefit analysis is robust, and is confident that the project’s benefits will exceed its costs.

Major project costs

The major cost items are as follows (present value at 7% real discount rate, \$2015)

- Land costs - \$276 million
- Capital costs - \$1,082 million
- Other costs - \$317 million.

The total costs for the project are estimated to be \$1,675 million (P50 cost estimate).

Total capital cost (real, undiscounted, \$2015)	\$1,825 million (P50)
Proponent’s proposed Australian Government funding contribution	The proponent is not seeking additional Australian Government funding support beyond the existing commitment of \$370 million.
Other funding (source / amount / cash flow) (nominal, undiscounted)	Container handling fees

Major project benefits

Benefits to industry include:

- Operating cost savings for freight - \$1,435 million
- Rail service quality improvements (including freight rail reliability and availability) - \$254 million.

Benefits to others (public benefits) include:

- Travel time reductions (trucks) - \$427 million
- Travel time reductions (general) - \$385 million
- Freight travel time reliability - \$61 million
- Reduced road damage - \$45 million
- Reduced accidents - \$62 million
- Externalities - \$55 million
- Other benefits – made up of producer surplus and residual values - \$161 million.

The proponent estimates the total benefits for the project at \$2,887 million (present value at 7% real discount rate, 2015 prices).

The proponent estimates the net economic benefits for the project at \$1,212 million (net present value at 7% real discount rate, 2015 prices).

6. Deliverability

Delivery of the project is underway. Detailed design and planning is well advanced, and financial close is expected to occur in October 2016. Works on the site are expected to commence in October 2016. Risks associated with delivery of the intermodal terminal are being managed by the developer, SIMTA, with oversight from Moorebank Intermodal Company.

The project business case noted the importance of improving the connection between Moorebank Avenue and the M5 Motorway to facilitate truck movements on and off the M5 as traffic volumes grow and congestion worsens. This will include addressing potential congestion where the M5 crosses the Georges River, which is the point at which trucks heading west from the terminal will enter the M5. The need for improved road connections around the Moorebank terminal is identified in the Infrastructure Priority List.

In the longer term, achievement of the freight throughput forecast in the project business case will depend on upgrades to the Port Botany rail line and the Southern Sydney Freight Line, including the development of longer rail sidings at Port Botany.

Moorebank Intermodal Company has indicated that issues around the port/rail interface are being considered through a process led by the leaseholder for Port Botany, NSW Ports. The Australian Rail Track Corporation is considering options to increase the capacity of the Southern Sydney Freight Line, and is developing a proposal for an additional passing loop between Warwick Farm and Cabramatta.

This evaluation summary was considered by the Infrastructure Australia Board in September 2016.

Following Infrastructure Australia's process of fact checking the evaluation summary with the proponent prior to publication, the brief was amended to clarify that financial close is expected to occur in October 2016.