



Parkes National Logistics Hub Business Case

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Project Overview

Parkes is a thriving town located within the Central West of New South Wales. Strategically situated at the cross roads of the Newell Highway, connecting Brisbane and Melbourne, and the transcontinental railway linking the eastern seaboard to Perth, Parkes is at the logistics centre of Australia. This unique characteristic places Parkes as one of the most strategically significant locations in the future of transport and logistics in Australia. Parkes is also likely to be one of the key hubs along any future Inland Railway that could reduce rail freight transport times to 21 hours between Melbourne and Brisbane.

Parkes Shire Council, with approval from the State Government, has rezoned 516 hectares of agricultural and industrial land on the western edge of the town for the development of the Parkes National Logistics Hub with additional land of over 100 hectares. The site has been specifically designed for the 24 hour, 7 days per week operation of a multi-modal transport facility.

Parkes is universally recognised as a strategic location for transport and logistics. From Parkes, 16 million people or over 80% of the Australian population can be reached in less than 12 hours. All capital cities in mainland Australia are readily accessible by road and rail with good access to Australia's largest ports.

Several of Australia's largest and most successful transport and logistics companies who have recognised the immense strategic importance of the development. Transport companies with large landholdings and operations in the hub include SCT Logistics, Asciano and Linfox. SCT Logistics currently operates an intermodal terminal which includes a 10,000 sqm warehouse facility and is actively looking to develop new operations across almost 300 hectares of land. Asciano has concept approval from the NSW State Government for the development of a \$100 million development on their 327 hectare site.

Major investment opportunities remain for businesses looking to take advantage of Parkes' significant potential for logistics, manufacturing and distribution. This includes large fully equipped industrial sites and advanced multi-modal facilities. The opportunity exists to relocate to the Hub to centralise national warehousing and distribution operations.

Artist Impression of the Parkes National Logistics Hub



Source: AECgroup (2008)

Centralised Distribution Network

The principal advantage of the Parkes National Logistics Hub is its central location and proximity to the major capital cities in Australia. From Parkes, 16 million people or over 80% of the Australian population can be reached in less than 12 hours. No other location in Australia offers this level of access to all major domestic markets. This unique characteristic makes Parkes the ideal place for businesses to centralise their national warehousing and distribution operations.

There are several existing distribution and warehousing networks that can be used by businesses to maximise efficiency and minimise costs. The network best suited to each business varies depending on operational characteristics such as the number and distribution of clients, required delivery times and type of transport used.

A centralised distribution network means one major warehouse operation. All products are transported from suppliers or the previous stage of production to the central warehouse for storage. Much smaller warehouse/distribution centres are operated on a Just-In-Time basis in the major markets prior to final delivery.

This contrasts with the more inefficient decentralised warehouse and distribution networks that many companies currently use. In Australia, this involves having several regional warehouses/distribution centres (typically in each capital city). Products are transported from suppliers or the previous stage of production to the regional warehouse/ distribution centre where they are stored before being dispatched to customers.

Consolidation of regional distribution centres into a larger centralised facility allows for significant economies of scale to be realised. Management and operational costs can be drastically reduced if there is only one site that needs to be operated. This includes efficiency gains in terms of lower land costs and labour productivity gains. A centralised facility can also result in reduced overall inventory levels throughout the distribution network. Instead of having safety stock on hand in each capital city, a smaller level of safety stock can be stored at the centralised facility to cover the whole network. This also translates into reduced stock outs as safety stock is stored at a central location and can easily be distributed to high demand areas as required. While many companies will still require regional distribution centres by having a centralised warehouse, regional distribution centres on expensive land can be downsized.

Just-In-Time Inventory Management

Just-In-Time (JIT) inventory management is a system where companies focus on minimising the level of inventory they have in stock. This is achieved by manufacturing and distributing products as they are demanded by customers rather than having excess stock on hand for dispatch. By reducing stock on hand through the utilisation of a JIT inventory management system, companies significantly reduce overall costs through lower storage, holding and insurance costs. JIT systems are particularly successful when they are combined with a centralised distribution model.

In order to successfully implement a JIT inventory management system, companies must be capable of quickly responding to changes in demand. A facility in Parkes has the ability to reach over 80% of the Australian population within 12 hours. This unique characteristic means that companies can quickly respond to demand throughout the country from one operation. Not only does Parkes offer the ability to rapidly distribute goods to customers throughout the country, it also means suppliers can easily arrange delivery of inputs.

The popularity and usability of JIT inventory management systems has dramatically increased in recent times due to significant improvements in Information, Communications and Technology (ICT) systems. ICT systems enable the management of inventory and distribution across different locations easily and securely. New software, hardware and telecommunications technology allows the smooth storage, analysis and transmission of information that is crucial in the successful operation of inventory management. Parkes has excellent telecommunications capabilities with multiple fibre optic cables connecting Parkes with Sydney, Brisbane, Melbourne and beyond. This multi-level network provides Parkes with a high level of redundancy meaning there is secure transfer of information to support the logistics sector.

By integrating a centralised distribution network with JIT inventory management systems, it is possible to significantly reduce the amount of stock stored throughout the logistics chain. The need for distribution centres in capital cities is greatly minimised as there is only the requirement to keep minimal stock on hand. The regional distribution centres essentially become small forward staging hubs for the final distribution to clients.

Cost Savings

Establishing an operation in Parkes allows companies to achieve cost reductions across several areas. These areas include:

- More affordable industrial land;
- Lower transport costs;
- Lower labour costs;
- Operational efficiencies and economies of scale; and
- Reduced stock on hand.

More Affordable Industrial Land

The cost of industrial property is considerably cheaper in Parkes in comparison to the capital cities. An analysis of the industrial property market indicates that leasing prime warehouse space in Parkes is between \$65-\$75 per square metre. This has been compared to some of the new industrial areas being developed in Melbourne, Brisbane and Sydney which are up to 45% more expensive. This equates to a saving of \$700,000 per annum for a 20,000 square metre warehouse located in Parkes versus in Sydney.

Average Warehouse Leasing Costs

Region	Average Warehouse Lease Costs (\$/sqm)
Parkes	\$65-\$75
Laverton (Melbourne)	\$90-\$100
Larapinta (Brisbane)	\$90-\$105
Huntingwood (Sydney)	\$95-\$110

Source: AECgroup (2008)

Lower Transport Costs

The centralised location of Parkes reduces the average distance to market (weighted to population). To demonstrate the potential for reducing transport costs, an example business has been developed. The company is assumed to have one factory in Australia and distributes its product to all the mainland capital cities in Australia. The distribution of the product is assumed to be in line with the population distribution between the capital cities.

Population in Mainland Capital Cities

Capital City	Population (2007)	% of Total
Sydney	4,336,374	33.8%
Melbourne	3,806,092	29.7%
Brisbane	1,857,594	14.5%
Perth	1,554,769	12.1%
Adelaide	1,158,259	9.0%
Darwin	117,395	0.9%
Total	12,830,483	100.0%

Source: ABS 3218.0, AECgroup

Average transport costs for road and rail transport have been estimated based on recent transport productivity studies. The cost of transport varies between different corridors depending on issues such as distance, average speed, quality of road/rail and reliability.

Road transport is estimated to have a freight cost of between \$0.057-\$0.082/Net Tonne Km (ntk). The most cost efficient corridor is Melbourne-Brisbane, with the least cost effective corridors from Melbourne-Adelaide and Sydney-Brisbane. Rail transport is estimated to have a freight cost of between \$0.026-\$0.069/ntk. The most cost efficient corridor is between Perth-Adelaide-Melbourne, with the least cost effective corridors between Sydney-Melbourne and Sydney Brisbane. Although the average cost of rail transport in Australia is generally cheaper than road transport on most corridors, road maintains a much higher market share as it is faster and offers increased access and flexibility. Handling costs have also been estimated and included where there is a modal shift from road-rail or rail-road.

As a base case, it has been assumed that the company’s existing factory is located within Sydney. The cost of transporting freight nationally from Parkes would be 3.6% lower than from Sydney. The additional costs of having to transport freight from Parkes to Sydney is outweighed by the cost savings achieved throughout the rest of the distribution network. Transport costs from a base in Parkes would also be marginally lower than from Melbourne and over 40% lower than from Brisbane. In the case of the development of the Australian Inland Railway between Melbourne and Brisbane through Parkes, transport costs would be significantly lower for freight transported between these locations. The cost of operating from a base in Parkes would fall dramatically and would become 24.9% cheaper than operating from a base in Sydney.

Transport Costs from Location

Region	Transport Cost (Index)	
	Existing Infrastructure	With Inland Railway
Parkes	96.4	75.1
Sydney	100.0	100.0
Melbourne	97.0	82.5
Brisbane	169.9	139.0

Note: Indexed to Sydney (100.0)
Source: AECgroup (2008)

It is also noted that Parkes has a particular competitive advantage over the Eastern Capital Cities in the transportation of freight to Perth. This is due to the fact that Parkes is the eastern most point in Australia that allows for the double stacking of rail wagons and the assemblage of long trains. The Great Dividing Range prevents this from being done from the capital cities resulting in cheaper freight costs from Parkes. This indicates that businesses with a significant market in Western Australia and/or South Australia can achieve even greater transport savings by basing themselves in Parkes.

Lower Labour Costs

The cost of labour in Parkes is cheaper than the major capital cities due to factors such as lower living costs. The average individual income for Parkes residents employed in the transport, postal and warehousing industry is \$864 per week. This is over 10% less than in Sydney and also below the average incomes in Melbourne and Brisbane. The average individual income in the manufacturing industry in Parkes is more than 20% below the Sydney average.

Average Individual Income by Industry

Region	Transport, Postal & Warehousing		Manufacturing	
	Income	Index ^(a)	Income	Index ^(a)
Parkes	\$864	89.8	\$732	78.5
Sydney	\$962	100.0	\$932	100.0
Melbourne	\$888	92.3	\$905	97.0
Brisbane	\$920	95.6	\$854	91.6

Note: (a) Indexed to Sydney (100.0)
Source: ABS Census (2006)

Operational Efficiencies

As discussed earlier, establishing a centralised warehouse and implementing a JIT Inventory Management system will allow businesses to improve the efficiency of their warehousing and operational networks. Warehouses and distribution centres in other capital cities can be downsized as there is a lower level of inventory required to be stored and in some cases they could be transformed into cross-docking distribution centres with minimal warehousing. This can result in land and labour efficiencies and working capital benefits deriving from such consolidation. It has been assumed that these savings would translate to a reduction in the size of distribution centres in the other capital cities of 25%, which is probably conservative.

Suitable Industries

The Parkes National Logistics Hub represents the ideal location for companies with a distribution network that extends throughout Australia. Parkes offers great access along the Eastern Seaboard by road as well as access to all major ports and other mainland capital cities by rail.

Manufacturers

Parkes is ideally suited to manufacturers with a national distribution network. Companies sourcing materials from the region would also be able to gain synergies with suppliers. Manufacturers in the following sectors have been identified as being particular suited to location in Parkes.

- Metal fabrication;
- Metal container manufacturing;
- Industrial machinery and equipment;
- Grain and cereal products;
- Non-perishable food manufacture;
- Beverage manufacture;
- Alcoholic beverages; and
- Furniture.

Wholesalers

Wholesalers of goods that are not required to be locally manufactured would get increased benefits of operating in Parkes. This would be represented by suppliers being able to bypass transporting goods through Sydney. Wholesalers operating in the following sectors would be most suited to Parkes:

- Forestry and timber;
- Building and construction materials;
- Furniture;
- Wool; and
- Cereal and grain.

Retailers

Distribution centres for national retailers represent an opportunity for development within the Parkes National Logistics Hub. Retailers could store products cheaply in Parkes and use a JIT system to transport inventory to where it is needed. Retailers selling more durable goods are better suited to Parkes such as:

- Hardware;
- Building and construction materials;
- Sporting and camping goods; and
- Furniture.

Importers

The Parkes National Logistics Hub has significant potential for companies importing goods to Australia by sea. Parkes is accessible to all major ports in Australia by rail making it an ideal location. The NSW State Government has granted concept approval for the development of an intermodal container terminal within the Hub. Parkes offers a great location for importers across all industries looking to import goods to Australia and then distribute throughout the country. The development of an Australian Quarantine and Inspection Service (AQIS) facility in Parkes would allow freight to be moved directly to and from ships underbond to the Parkes National Logistics Hub. This would avoid the costly delays that often occur at some of Australia's largest ports and provide added efficiencies to the logistics chain.

Example Businesses

The AECgroup has undertaken an assessment of the operational cost savings that could be achieved by developing a warehouse/distribution operation within the Parkes National Logistics Hub. Every business is unique so the following examples are based on a number of assumptions to ensure some relevance for most businesses. Operational costs have been based on research and assumptions outlined in previous sections.

Example 1: Small Manufacturer and Distributor Relocating to Parkes

This example is based on a company manufacturing a non-perishable product that they distribute to all capital cities nationally. The company leases a 15,000sqm factory and employs a workforce of 40 people. The finished product is moved to a nearby warehouse for storage before being transported by road and rail to distribution centres in each capital city and finally delivered to customers.

As a base case, it has been assumed that the factory and central warehouse are both located in Western Sydney. The manufactured product is moved to the central warehouse in Sydney and then transported by road and/or rail to distribution centres in Melbourne, Brisbane, Adelaide, Perth and Darwin. The assessment considers the operational cost savings that could be achieved by relocating the factory and central warehouse to Parkes. Advantages would include lower land costs, cheaper labour, lower transport costs and JIT operational efficiencies associated with a more centralised distribution network. Additional operating costs would be represented by a small additional distribution warehouse in Sydney.

Based on these assumptions, the company could expect to realise a 10.6% reduction in operational costs as a result of relocating the factory and central warehouse to Parkes. It is estimated that safety stock could be reduced by 50.4% by developing a centralised warehouse in Parkes. This would correspond to a total reduction in inventory on hand of 4.6%. These are significant savings to be considered against the one-off capital costs required for the relocation.

Example 2: Large Manufacturer and Distributor Establishing Central Distribution Centre in Parkes

This example is similar to the previous example with a company manufacturing a non-perishable product that they distribute to all capital cities nationally. The only difference is the company has a larger and better established manufacturing operation meaning it is too costly and impractical to relocate.

The assessment considers the operational cost savings that could be achieved by relocating the central warehouse to Parkes while leaving the manufacturing operations unchanged. Manufactured products bound for the Sydney market would be moved to a much smaller nearby distribution centre with the remainder of stock, bound for the rest of the country, transported to Parkes.

Advantages would include lower warehousing costs, cheaper labour, lower transport costs and JIT operational efficiencies. Additional operating costs would be represented by a small additional distribution warehouse in Sydney.

Based on these assumptions, the company could expect to realise a 0.9% reduction in distribution costs as a result of relocating the central warehouse to Parkes. It is estimated that safety stock could be reduced by 46.8% by developing a centralised warehouse in Parkes. This would correspond to a total reduction in inventory on hand of 4.3%. Cost savings would be greatly increased with the development of an Inland Railway between Melbourne and Brisbane through Parkes. This example may be more realistic to most manufacturing companies with the distribution and storage operations being more flexible than production.

Example 3: Importer Establishing Warehouse/Distribution Centre in Parkes

This example is based on a company that imports non-perishable products into Australia. All products arrive in containers at the same port where they are unloaded, moved to a nearby warehouse for storage before being transported by road and rail to distribution centres in each other capital city and finally delivered to customers.

As a base case, it has been assumed that the products are imported to Port Botany in Sydney with the central warehouse located in Western Sydney. The products are moved to the central warehouse in Sydney and then transported by road and/or rail to distribution centres in Melbourne, Brisbane, Adelaide, Perth and Darwin. The assessment considers the operational cost savings that could be achieved by relocating the central warehouse to Parkes. In this case, the containers are unloaded at Port Botany and clear customs before being transported directly to Parkes. They are then unloaded and stored at Parkes before being transported to the smaller distribution centres in each capital city including Sydney.

Advantages include lower warehouse and land costs for storing containers, cheaper labour, lower transport costs and JIT operational efficiencies. Additional operating costs involve having to transport containers to Parkes and then the products back to Sydney.

Based on these assumptions, the company could expect to realise a 3.2% reduction in distribution costs as a result of relocating the central warehouse to Parkes. This saving would be greatly increased with:

- The development of an Inland Railway between Melbourne and Brisbane through Parkes; and
- Provision of bond stores within the Parkes National Logistics Hub allowing containers to be moved directly to Parkes and bypassing the time consuming and costly delays at the wharf.

Cost Savings and Inventory Efficiencies

	Example 1	Example 2	Example 3
Costs			
Factory Costs	N.a	-19.2%	0.0%
Warehousing Costs	-7.9%	-2.1%	-5.9%
Transport & Distribution Costs	+15.6%	-3.6%	+20.1%
Total Factory, Warehousing, Transport & Distribution Costs	-3.2%	-10.6%	-0.9%
Inventory			
Safety Stock	-50.4%	-46.8%	-40.3%
Total Inventory	-4.6%	-4.3%	-3.7%

Source: AECgroup (2008)

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