

BULLETIN

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INTRODUCTION

In 2013 the Freight and Logistics Council of WA (FLCWA) coordinated a comprehensive tour of several industrial estates and freight and logistics centres. The tour was attended by State, Local government and industry representatives, as well as several consultants who work within the transport and industrial sectors of the industry. The purpose of the tour was to experience first-hand some of the operational issues those working in the freight and logistics industry face on a day-to-day basis, and some of the operational and site design trends pursued to overcome operational conflicts and constraints.

This bulletin reports on the following areas:

- the developments at the Kewdale-Forrestfield including the Perth Freight Terminal and Toll's freight forwarding facility;
- the spectrum of terminals and hubs which operate in terms of their size, function and access needs;
- the operational issues being faced at the Canning Vale and Kewdale industrial estates, and the recent Stockyards Industrial Estate development in Hazelmere; and
- what are the possible solutions planners can implement to assist in overcoming the operational conflicts and constraints being faced in some industrial areas.

THE FREIGHT NETWORK IS LINKED TO A SERIES OF INTERMODAL FREIGHT TERMINALS AND HUBS, SOME OF WHICH ARE RAIL TO ROAD AND OTHERS OF WHICH ARE ROAD TO ROAD, AND CONTAINER STORAGE AREAS.

INTERMODAL TERMINALS AND HUBS

Freight centres are broadly defined as major hubs where a high level of activity relating to transport, logistics and goods distribution occurs on a commercial basis by various operators. These centres include intermodal terminals, road-to-road terminals, ports, major rail yards, and transport, warehousing and distribution precincts. There are various types of terminals and hubs, which require differing amounts of land, and differing connections to the road and rail network. These can be categorised into the following broad types:

- **Port Intermodal Terminals (sea, rail and/or road):**
Associated uses include empty container parks, freight forwarding (cross dock) facilities. These require sufficient length for rail and land area capacity for container management (e.g. Fremantle Inner Harbour, the planned Outer Harbour, the proposed Latitude 32 Kwinana Intermodal Freight Terminal, and the planned Terminal 2 at the Perth Freight Terminal in Kewdale).
- **Rail Intermodal Terminals (rail and road):**
e.g. Perth Freight Terminal at Kewdale and the Forrestfield Intermodal Freight Terminal Associated uses at these facilities include the freight forwarding (cross dock) facilities of K&S Freighters (4ha), Toll (5.5ha site, now expanded to 7ha with additional hardstand) and Linfox (8ha) at the Kewdale Freight Terminal. This facility is discussed further as part of this bulletin.
- **Large Scale Distribution Centres:**
8-10ha sites such as Coles and Woolworths at Perth Airport and Metcash at Canning Vale.
- **Large Scale Freight Forwarding Facilities:**
e.g. Linfox (8ha), Coca Cola and Toll at Goodman's Stockyards development in Hazelmere, Linfox's proposed development at North Bullsbrook, and Toll Express at Perth Airport. These facilities uses can be used for fast moving consumer goods (perishables such as groceries and other high turnover goods) and slow moving goods (such as the storage of machinery tyres for the resource industry).
- **Empty Container Terminals:**
are managed, reallocated, cleaned, repaired, stored and returned to shipping lines. These 5-15ha sites, located at facilities such as the Forrestfield Intermodal Terminal and the Fremantle Inner Harbour require good road connections and inexpensive land.
- **Truck Breakdown Terminals:**
5-15 ha sites for truck 'break-down' terminals, e.g. the Apple Street Road Assembly Area in Upper Swan, where large multi-combination trucks are broken up to continue into the metro area.
- **Road to Road Transport Hubs:**
for storage and distribution of imports and reallocation or return of empty containers. These sites provide a capacity and 24 hour operational buffer for port facilities.

KEWDALE AND FORRESTFIELD – A WORLD CLASS INTERMODAL HUB

The Kewdale-Forrestfield hub is accessible by road, rail and air, and close to industrial areas. It contains nationally significant intermodal freight terminals and numerous complementary transport and logistics related businesses. The intermodal freight terminals handle international, interstate, high value fast moving consumer goods (FMCG's) and bulk regional products.

The jointly funded State and Federal Government's Gateway WA road infrastructure project also acknowledges and responds to the growing pressure in freight movements in the Kewdale-Forrestfield and Perth Airport area, committing to significant road network upgrades by early 2017.

Perth Freight Terminal

Forming an integral part of the Kewdale-Forrestfield hub is the Perth Freight Terminal (PFT). The PFT is a 68 hectare site located south of Abernethy Road, on the former Kewdale freight terminal. In 2007 a long term lease agreement was entered into between the State Government (acting through the Public Transport Authority) and Asciano Services Pty Ltd (through its subsidiary Pacific National) to redevelop and manage the rail freight terminal.

Pacific National anticipates the terminal will accommodate their long term growth projections for container business (from 480,000 twenty-foot equivalent units per annum to 1,000,000 over the next 15 years), ranking it as one of the largest terminals in Australia. The PFT is home to a number of logistics operators including Linfox, K&S Freighters and Toll.

THE KEWDALE-FORRESTFIELD HUB IS HOME TO AN INTEGRATED INTERMODAL FACILITY WHERE KEY RAIL CUSTOMERS HAVE BEEN THOUGHTFULLY PLACED IMMEDIATELY ADJACENT TO THE RAIL TERMINAL. THE CONSOLIDATED OPERATIONS HAVE RESULTED IN SIGNIFICANT COST AND TIME SAVINGS FOR OPERATORS.

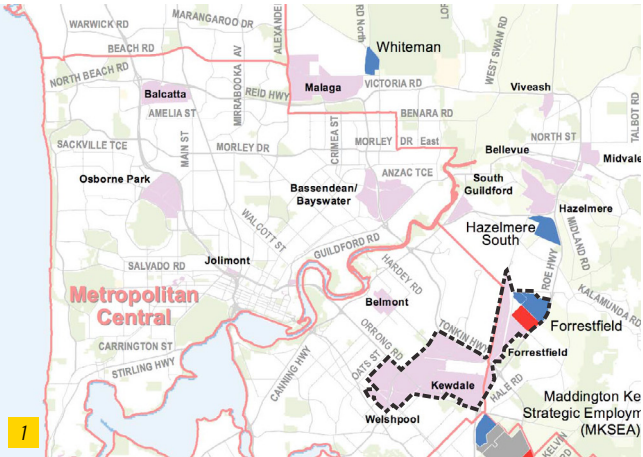


Figure 1: Location Plan – The Kewdale-Forrestfield Hub



Figure 2: Aerial of The Perth Freight Terminal



Figure 3: The Toll intermodal freight forwarding facility in Kewdale | Figure 4: A reach stacker in action loading a double road train
Figure 5: ITV's are used to transfer containers from the rail terminal directing to Toll's facility (anti-clockwise)

Toll Kewdale Intermodal Freight Forwarding Facility

Located immediately adjacent to the PFT is Toll's intermodal interstate freight forwarding facility. The facility represents a world-class operation within Kewdale. We were fortunate to have a guided tour of Toll's facility, observing the operational logistics of rail to truck freight container movements.

Opened in March 2013, the 5.5ha site incorporates the 'Cargo Link' concept which directly transfers freight to and from the freight container handling area sites without the need to use the public road system. This enables Toll and Pacific National to access each other's sites directly, where containers are transferred without the need to be loaded onto licensed trucks, driven via road and unloaded again. Freight containers are taken off the rail wagons by reach stackers and transferred onto Internal Transfer Vehicles (ITV's). This integrated approach reduces container handling times and results in a much more efficient delivery of freight. It also reduces the impact and the congestion of truck movements on the public road system. Toll's site is in the process of being expanded by a further 1.5ha with additional hardstand.

THE EMERGENCE OF INTEGRATED LOGISTICS AND DISTRIBUTION CHAINS HAS CHANGED THE NATURE OF THE LOGISTICS SECTOR. WAREHOUSES ARE NO LONGER STATIC SPACES TO STORE STOCK. THEY ARE COMPLEX DISTRIBUTION AND INFORMATION CENTRES LINKING THE ENTIRE SUPPLY CHAIN BETWEEN RETAIL SHOPS AND THE DELIVERY OF GOODS AND SERVICES.

Canning Vale and Kewdale Industrial Areas

Like a number of industrial estates in the Perth Metropolitan Region, the Canning Vale and Kewdale industrial areas experience day-to-day operational issues resulting from poor accessibility for delivery trucks.

During our tour of these two industrial parks we observed a number of sites which had an insufficient supply of car bays for employees and visitors. This resulted in cars being parked on verges or on the street carriageway.

Whilst street parking is not illegal, the effective width of a nine metre industrial road pavement is further reduced as a result of parked cars. This restricts the maneuverability of semitrailers navigating through industrial estates and accessing lots. It is understood the City of Canning has taken steps to prevent street parking in parts of its Canning Vale industrial estate to minimise truck and car movement conflicts and facilitate improved lot accessibility by commercial vehicles.

The lack of adequate parking allocated within private industrial lots can be attributed to a number of possible factors, including the following:

- Some businesses are using front building setback areas for the storage of goods and materials, including freight containers. As a result, some car parking areas are no longer available for employee and visitor use;
- A change in the nature of the business resulting in a higher car parking requirement for employee and/or visitor bays than what was previously approved by Council; and

- Growing industrial businesses attempting to continue to operate on small lots despite the mismatch between land required for operational requirements and actual site area. This may be the result of some business growth and an unwillingness to move due to landowners having invested significant capital into the site, preferring to remain in the area due to favourable local characteristics (also known as **Industrial Inertia**). This may also be due to a lack of suitably sized medium to large lots in the locality to accommodate business growth.

Whilst small industrial lots do provide for a particular market segment (from an affordability and small-scale business needs point of view), during our tour it was observed several small businesses receiving inappropriately large deliveries from semitrailers in the form of freight containers. Semitrailers with 40 foot (12.2m) containers require sufficient space to manoeuvre and unload with their side lifters. In many cases semitrailers are unable to navigate smaller sized industrial lots. Whilst not all small lot industries trigger the need for large deliveries, those that do may be mismatched to their storage space and operational needs.

In response to this, planning mechanisms and compliance measures are suggested to mitigate similar operational conflicts and constraints occurring in future planned industrial estates. Some of these mechanisms are considered in the concluding section of this bulletin.



Figure 6: Compliance issues – containers being left on the street verge and within the front setback of lots | Figure 7: Compliance issues - multiple stacking of freight containers within the front setback of a lot | Figure 8: Compliance issues - storage of materials in truck maneuvering areas.

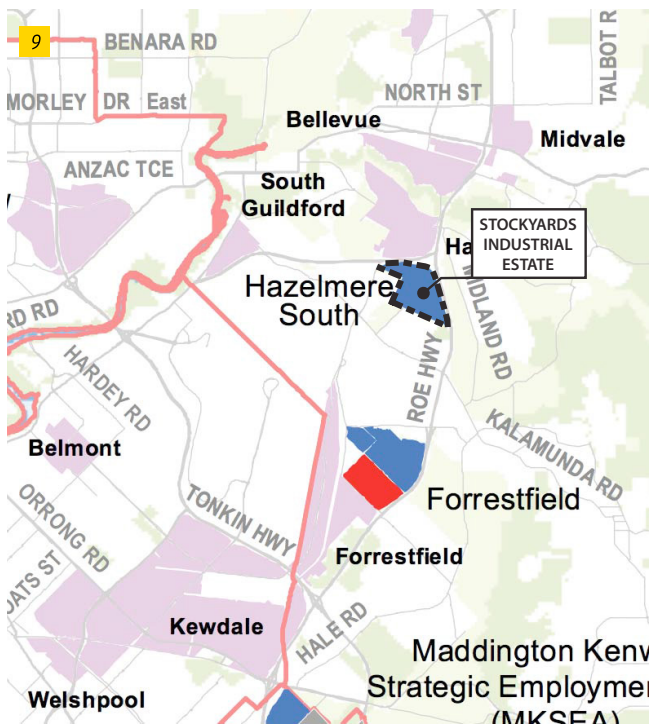


Figure 9: Location Plan - Stockyards Industrial Estate

The Industrial Land Supply Squeeze: Strategic Movements to the Outer Metropolitan Ring

Freight and logistics companies require well-located large industrial lots accessible to strategic freight routes. The availability of large industrial lots (>2ha) suitable for the smaller operators of the transport industry is becoming increasingly scarce and expensive. National freight and logistic operators require much larger lots than this (in the order of 12ha-20ha sites) to accommodate burgeoning warehouse sizes and on site movement capacity.

According to Colliers International's Research and Forecast Report (First Half, 2013) the demand for these larger A-Grade properties has been consistent since 2011 owing to a general lack of large lot industrial land releases across metropolitan Perth. A significant percentage of demand has been driven by the transport and logistics sector.

Industrial land values have increased substantially over recent years, making it financially challenging for many operators to locate within the inner metropolitan area.

The continued growth in general vehicular traffic is making it increasingly difficult for road freight to operate efficiently. As a result, freight and logistics operators have been casting their eye further afield to areas such as Hazelmere and South Bullsbrook for operational and financially sound solutions.

Stockyards Industrial Estate

The Stockyards Industrial Estate is located north-east of the Perth International Airport on Bushmead Road, Hazelmere. Formerly the Western Australian Meat Industry Authority site, the 33 hectare parcel of land is now home to a mixture of transport logistics, warehouse, distribution and light industrial operators. Tenants include Coca-Cola Amatil, Toll, MTU Detroit Diesel and Linfox. The Hazelmere site provides efficient access to the major highways (Roe Highway and Great Eastern Highway) for double road trains. Of particular note is the application of decked car parking in the estate which follows a general trend towards the more intensive use of land in industrial centres.



Figure 10: Decked Parking At The Stockyards Industrial Estate

Responding to the Issues

The study tour provided some valuable insights into the operational conflicts and constraints being faced in some industrial areas, particularly how the relationship between site size and use of adjacent road reserves failed to accommodate the movement of various sized freight vehicles. Conversely, the tour also showed how some sites had been well planned, with suitable site design layouts, appropriate crossover widths and well-considered swept paths for trucks. The table below lists the key observations made during the study tour, and identifies possible solutions for further consideration.

Observations	Considered Solutions
<p>Some of the industrial areas visited included a significant proportion of smaller lot sizes (1000-1500 sqm).</p> <p>Many of these lots had insufficient dimensions and site layouts to accommodate semi-trailers and heavy rigid vehicle movements.</p> <p>A variety of lots sizes, in particular large lots, is necessary to cater for a variety of potential future and existing industrial occupiers.</p>	<ul style="list-style-type: none"> Consider the inclusion of mandated minimum lot sizes and lot widths through the State Planning Framework (most likely applied through the Western Australian Planning Commission's Development Control Policy 4.1 – Industrial Subdivision) to better accommodate on-site manoeuvrability. Planning mechanisms, such as structure plan provisions and notifications on titles, should be further investigated to protect industrial lots from being further subdivided in the longer term.
<p>Some lots had an insufficient supply of car parking on site. Some car parking areas were also being used for the storage of goods or waste material, further restricting truck access.</p>	<ul style="list-style-type: none"> To improve future industrial site layouts, a review of local planning scheme and local planning policies on site design standards may be required. This could include a review of car parking ratio standards and increasing the ratio of storage and waste areas required at the development application stage. This could be done in conjunction with the application of minimum lot sizes and dimensions as previously identified. Non-conformance with the local planning scheme (in the context of storage of goods in car bays) needs to be addressed consistently by local authorities by issuing infringements for non-compliance with approval requirements.
<p>Some lots were being used for non-industrial uses.</p>	<ul style="list-style-type: none"> Refine the industrial land use definitions of local planning schemes to restrict inappropriate businesses locating within industrial zoned sites. Refined land use definitions could be applied through the Western Australian Planning Commission's Model Scheme Text, which in turn would guide a local government when preparing or amending its local planning scheme. Identify priority industrial land uses and review the land use permissibility for the industry types within local planning schemes.
<p>There was a lack of truck parking and truck maneuvering areas within road reserves to enable semi-trailers to navigate safely in and out of lots, or to park whilst other trucks were located on site.</p>	<ul style="list-style-type: none"> Develop overarching guidelines for the design of industrial estates, including consideration of larger truck maneuverability and operational requirements (e.g. temporary truck parking and truck breakdown areas, suitable swept paths). Broader design solutions could include the use of dedicated rear service laneways. Austrroads is currently developing draft design guidelines to assist local governments when assessing applications for the development of industrial estates. It is intended to provide a framework to ensure the roads-based component of new industrial estates is fit-for-purpose, and will accommodate current and expected vehicle types.
<p>The Perth Freight Terminal and the Toll development represents a leading example of a well thought out and implemented intermodal design.</p>	<ul style="list-style-type: none"> The 'general industry' zone applied by most local governments under their planning schemes is a generic approach which does not necessarily consider the unique requirements of a locality. A good understanding of the intended purpose of an industrial estate is therefore important when planning for that use. From a broader strategic planning point of view, it is important that other intermodal sites be proactively planned for. The land area and operational requirements of freight and logistics operators should assist and inform State government agencies when planning for strategic industrial sites. As part of the ongoing implementation of the <i>Economic and Employment Lands Strategy: non-heavy industrial</i>, State Government will continue to engage with local governments and the private sector to better understand end user needs and to develop strategies to attract key tenants to future estates. In addition, large strategic industrial sites need to be planned for, acquired, protected/ reserved for the purposes of freight and logistics operations. The forward planning of industrial estates, mainly facilitated through structure planning, will enable the identification of land for strategic freight and logistics operations. Further consideration will need to be given as to how the planning framework can protect larger lots from being developed and fragmented into smaller industrial lots. The translation of structure plan requirements into statutory local planning schemes could also enable appropriate land use controls to be implemented to protect against inappropriate competing uses.

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