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Alternative Arrangements for Transport, Handling and Storage
of Shipping Containers Associated with Fremantle Port Inner
Harbour

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SEA FREIGHT COUNCIL OF WESTERN AUSTRALIA



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Executive Summary

This study was undertaken under the direction of the Sea Freight Council to investigate alternative arrangements for the transport, handling and storage of shipping containers associated with the Fremantle Port Inner Harbour.

The objective of the study was to determine whether improved logistics arrangements can be facilitated by initiatives such as intermodal terminals, inland container parks and more efficient road depots and whether these initiatives can be effective in improving efficiency and reducing heavy vehicle movements to and from the Port.

The report addresses whether such facilities at identified locations could be commercially viable and, if not, what role Government needs to play and the justification for Government involvement. The relative merits of various locations have also been investigated.

This study will provide important advice to Government and other stakeholders to determine the most appropriate arrangements to serve the port in the future. The concepts explored include:

Rail alternatives

- Increased use of rail to the port via terminals at:
 - Kewdale
 - Picton
 - Kwinana
 - York
 - Kalgoorlie

Road alternatives

- Metropolitan hubs located at:
 - Kewdale (eastern suburbs)
 - Northern suburbs
 - Southern suburbs
- Port based hub

Operational alternatives

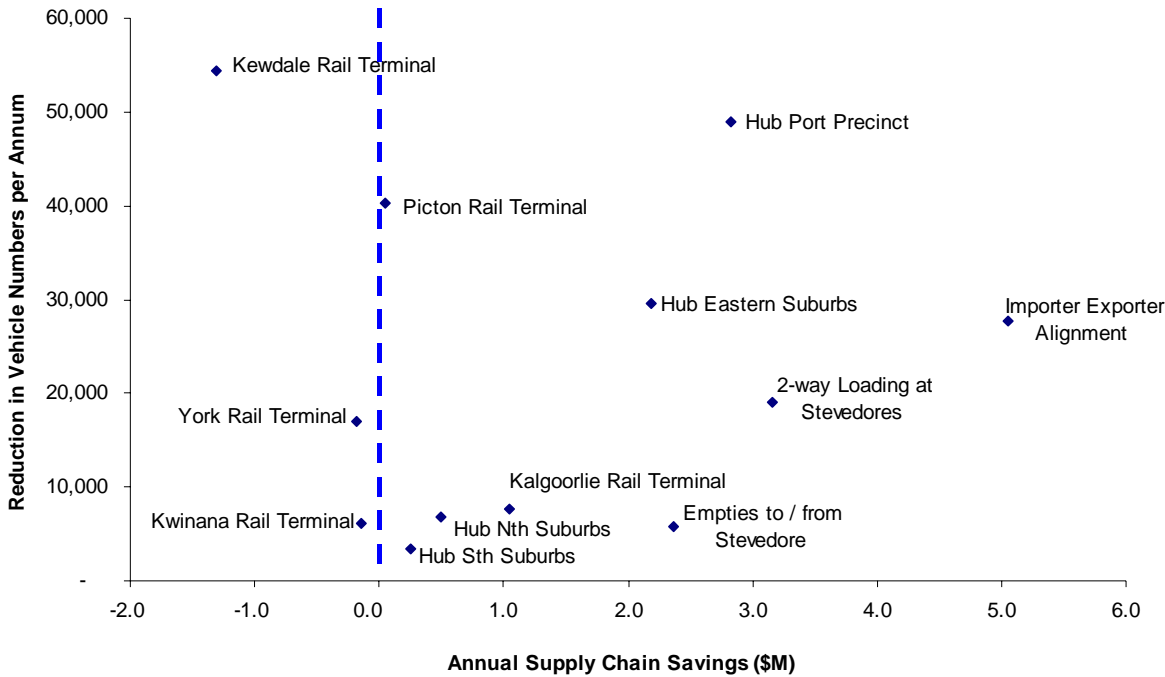
- Two way loading at Stevedores
- Empty container moves to and from stevedores
- Alignment of importer and exporter container needs
- Use of larger trucks
- Improved information flow and communication

For each of these alternatives anticipated benefits were assessed:

- Community benefits and overall port congestion was quantified in terms of reduction in number of vehicles moving to / from the port
- Commercial impacts were quantified in terms of overall changes in supply chain costs for each alternative, compared with current practice. This was based on transport and handling costs per teu.

The use of larger trucks and application of information systems was investigated as a complement to the alternatives proposed without specifically quantifying anticipated benefits of these approaches. The outcomes of these findings are summarised in Figure 1 and discussed below.

Figure 1 Impact of different concepts given likely market coverage



Rail

Fremantle Port Authority is currently redeveloping both rail access and the rail terminal at the port. This will create opportunities for improved efficiencies and incorporate narrow gauge access. The addition of narrow gauge facilities creates the opportunity to extend direct rail services to Picton, Kwinana and York. There are currently direct rail services from the Port of Fremantle to Kewdale and Kalgoorlie.

The impact of expanded rail terminal operations at Kewdale, Picton, Kwinana, York and Kalgoorlie was investigated, with analysis showing the following impacts:

Alternative	Market Coverage		Truck Numbers Impacts		Cost Impacts	
	Number of teu impacted '000	Portion of TEUs impacted	Reduction in vehicle numbers '000	% Reduction in vehicles	% Reduction in supply chain costs	Supply chain savings '000
Kewdale	35	9%	54	12%	-21%	-\$ 1,307
Picton	26	6%	40	9%	1%	\$ 52
Kwinana	4	1%	6	1%	-21%	-\$ 148
York	11	3%	17	4%	-7%	-\$ 187
Kalgoorlie	5	1%	8	2%	19%	\$ 1,044

Each of these alternatives showed significant benefits in terms of reduced vehicle numbers. The facilities with the largest market and freight volumes, at Kewdale and Picton, showed the most positive impact. However shorter haul alternatives to Kewdale, Kwinana and York face commercial impediments with higher supply chain costs for rail compared with a typical road scenario.

Key benefits of increased rail use at these locations were identified to be:

- Highly effective at reducing heavy vehicles from road where freight is suited to being moved by rail. This impacts not only the immediate port precinct but also the broader road network, particularly regional areas such as Picton, Kalgoorlie and York.
- Opportunity to transport the container from the stevedore to the rail terminal as soon as it is released, avoiding demurrage charges at the Stevedore. A similar benefit is available for a road hub located at the port.
- By avoiding queues at the port and port traffic congestion, containers typically arrive at customers in a more predictable timeframe. This enables importers to better plan labour for receiving and destuffing containers.
- Rail terminals can incorporate temporary storage facilities and other value added services.

Key considerations that need to be addressed include:

- Current cost impediments of using rail more widely, particularly between Kewdale and the port. Active participation by government to support rail and drive increased volume is required to realise the benefits of increased freight on rail.
- Rail from Picton has significant impacts on vehicle numbers but commercially is more or less break even with road. Government support to develop the business case and provide key capital infrastructure will make this a more commercially viable alternative.
- The integration of remote container depots and rail terminals will improve the cost effectiveness of rail. This needs to be explored with shipping lines and potential depot operators.

Specific actions and responsibilities are listed at the end of the executive summary.

Road Hubs

Investigation of the impact of road hubs located in the northern, eastern and southern suburbs and in the port precinct showed the following impacts:

Alternative	Market Coverage		Truck Numbers Impacts		Cost Impacts	
	Number of teu impacted '000	Portion of TEUs impacted	Reduction in vehicle numbers '000	% Reduction in vehicles	% Reduction in supply chain costs	Supply chain savings '000
Northern suburbs	8	2%	7	1%	15%	\$ 499
Eastern suburbs	35	9%	30	7%	15%	\$ 2,190
Southern suburbs	4	1%	3	1%	15%	\$ 248
Port precinct	101	25%	49	11%	14%	\$ 2,820

Given current freight demand patterns there is sufficient freight volumes to support hubs in the eastern suburbs, at or near Kewdale, and in the port precinct. Both these facilities also have rail access creating the opportunity to consider synergies such as a shared container park operation.

The market in the southern suburbs is relatively small and the resulting commercial and community benefits of a road hub for the southern suburbs are correspondingly small, providing limited justification to establish a hub. However, when operations at Outer Harbour commence the market situation will

change significantly. Future establishment of a road hub in the southern suburbs will support efficient transport operations to and from Outer Harbour.

Analysis of a northern suburbs road hub showed moderate commercial and community benefits, based on the current market size. However, given anticipated industry growth in the northern suburbs it is expected that in the near future there will be sufficient volume to justify a road hub and subsequently a container depot.

The benefits of hubs were identified to include:

- Reducing the number of vehicle movements through the port precinct.
- Ability to extend transport operating hours through acting as a buffer between warehouses and container parks that typically have shorter opening hours. Road hubs will also assist to increase stevedore activity in the evening and improve utilisation of stevedores' equipment.
- Improving reliability and timeliness of deliveries to / from importers / exporters.
- Enabling specialised swing lift vehicles to be dedicated to shuttles to / from importers / exporters, improving utilisation of these specialised vehicles.
- Generally supporting operational alternatives such as two way loading, empty containers direct to / from stevedores and container triangulation.

Key aspects that need to be addressed in order to progress the introduction of hubs include:

- Establishing an operational model that facilitates the hub being used by a wide cross section of industry. This will need to address issues such as:
 - Operation of the port shuttle services – who runs it and who pays for it
 - Payment for use of the hub
- Providing transport operators with assurances that the confidential nature of their commercial arrangement with importers / exporters will be maintained is key to ensuring operator support for the hubs.
- Identifying land and securing suitable sites, including provision to ensure these sites continue to be available for transport activities as long as there is a need, despite increasing land values.

Actions and priorities are detailed in the table at the end of the executive summary.

Operational Alternatives

This study also investigated a number of operational alternatives:

- Two way loading at stevedore Vehicle delivers an export container into the stevedore and collects a loaded import at the same time
- Empties to / from Stevedore Vehicle drops an empty export container directly at stevedore
Vehicle collects an empty import container directly from the stevedore
Currently these empties go via a container park
- Importer / exporter alignment Empty import container moves directly from the importer (or via a hub) to an exporter

Their anticipated impacts are shown below:

Alternative	Market Coverage		Truck Numbers Impacts		Cost Impacts	
	Number of teu impacted '000	Portion of TEUs impacted	Reduction in vehicle numbers '000	% Reduction in vehicles	% Reduction in supply chain costs	Supply chain savings '000
Two way loading at stevedore	77	19%	19	4%	20%	\$ 3,159
Empties to / from Stevedore	24	6%	6	1%	42%	\$ 2,368
Importer / exporter alignment	23	6%	28	6%	51%	\$ 5,051

Each of these operational alternatives delivers benefits in reduced operating costs and reductions in vehicle numbers. Specific benefits of each operational alternative are summarised below:

- | | |
|-------------------------------------|---|
| Two way loading at stevedore | <ul style="list-style-type: none"> Improved vehicle utilisation in the port precinct and reduced empty vehicle moves Reduced queuing time at stevedores for transport operators Improved efficiencies for stevedores increasing throughput and improving equipment utilisation |
| Empties direct to / from stevedores | <ul style="list-style-type: none"> Similar benefits to two way loading Reduced transport moves between stevedores and container parks Reduced costs of handling containers through container parks |
| Importer / exporter alignment | <ul style="list-style-type: none"> Reduced empty movement of containers to and from the port |

Of all the alternatives assessed importer / exporter alignment has the greatest potential impact on supply chain costs. In isolated instances industry has recognised these opportunities and implemented importer exporter alignment, primarily for large volume exporters. Assessment of typical data for shipping lines identified significant potential to expand the use of importer / exporter alignment. This has not been achieved to date, despite significant savings, due in part to fragmentation of the industry and a corresponding lack of data on container usage patterns to enable identification of these opportunities.

There is significant opportunity to harness this potential through improved awareness of the commercial benefits and improved sharing of data amongst relevant parties identifying specific opportunities.

Two way loading at the stevedores has the second most significant impact on supply chain costs. It is estimated that up to 5% of containers are currently two way loaded at stevedores and there remains opportunity to expand this. Stevedores and transport companies benefit commercially from two way loading through improved efficiency and aim to achieve it where possible. However there remain a number of operational constraints both with the stevedore interface, eg the vehicle booking system, and transport operations, eg ability to coordinate containers for two way loading, that have limited the application of two way loading. Enhancements to stevedore systems combined with the introduction of road hubs improving ability to coordinate transport moves will increase opportunity for two way loading at the stevedore.

Direct movement of empty containers to / from the stevedore is an expansion of the two way loading alternative and delivers significant additional benefits. Stevedores are primarily a transit point and it is

critical that their operations are not congested with unnecessary empty containers. As such the direct movement of empty to / from stevedores needs to be restricted to instances where:

- Empty containers are being exported and receipt of loaded containers for that ship has already commenced.
- Empty containers are being imported and an importer has an immediate need for that container.

The establishment of road hubs has the potential to provide increased flexibility to hold containers temporarily and increase the application of this alternative.

Key issues that need to be considered prior to implementation of these alternatives include:

- Improvements to the vehicle booking system to facilitate two way loading, such as charging per vehicle rather than per container to provide increased commercial incentive for transport operators.
- Reducing the current waiting time at the stevedore for transport companies between dropping one container and collecting the next. This could be facilitated through the increased use of road hubs and rail terminals as a central coordination point between the transport industry and stevedores to provide advance notice of containers to be collected and dropped.
- Improved communication between different stakeholders is required to enable these alternatives to be implemented. The introduction of a container management system would be a great support to improved communication and increased container visibility.
- A change in shipping line operations to identify opportunities for empty container moves direct to / from stevedores and triangulation opportunities.
- Coordination across the shipping lines, stevedores and the transport industry to facilitate these changes.
- Stevedores have limited space to store and handle empty containers. This needs to be considered when looking at stevedore handling of empty containers ensuring it is structured in such a way so as not to reduce stevedore efficiency.
- Shipping lines currently rely on container parks to track and record containers and undertake necessary repairs and upgrades. This needs to be considered when looking at alternatives that avoid use of containers parks such as triangulation and direct movement of empties to stevedores.
- Shipping lines have poor visibility of their containers after they leave stevedores and container parks potentially creating difficulty for shipping lines to direct containers to the most efficient location when its current use is complete.
- Improved industry awareness of the commercial benefits of these alternatives

Inland Container Parks

The establishment of transport hubs remote from the port creates the opportunity for the establishment of inland container parks. To be cost effective the scope of operations at these container depots will need to reflect the market size for container freight in the surrounding suburbs. Where there is sufficient critical mass, such as in the Kewdale and Picton areas, a container depot should be able to provide:

- dehire / rehire of containers
- container upgrade
- minor repairs.

The provision of these facilities remote from the port avoids the need for empty containers to be returned to the port for processing, reducing costs and traffic congestion at the port. The establishment of container depots remote from the port associated with road and rail facilities will assist to deliver the benefits identified for road and rail alternatives and also operational alternatives, particularly importer / exporter alignment. Shipping lines need to be involved in establishment of these facilities given that they control the containers and typically direct delivery locations for empty containers.

Overall Conclusions

There are strong synergies between many of the alternatives assessed. A coordinated implementation of these alternatives will have a much greater impact than isolated impact of one or two initiatives. For example, the establishment of a road hub provides a centre of activity to gather information and coordinate efficient container moves. This will improve the ability to implement importer / exporter alignment and two way loading or empty moves to the stevedores. Establishment of remote container depots can improve the efficiency of road and rail supply chains through avoiding and optimising movement of empties to and from the port. Remote container depots providing container upgrade and repair services will facilitate the application of importer / exporter alignment.

In order to maximise the future life and efficiency of the Inner Harbour container trade from a freight movement perspective this study finds that:

- All of the operational alternatives identified in this study have significant benefits and should be implemented, including:
 - Importer / exporter alignment
 - Two way loading at stevedores
 - Empties direct to stevedores
- Road hubs at the port and at Kewdale have significant benefits and should be implemented
- Road hubs in the southern and northern suburbs are not required now but should be planned for in the future.
- Government support will be required to improve the commercial viability of the rail alternative to / from Kewdale, at least in the short term while critical volume builds.
- A Picton rail service will generate significant benefits in reduced vehicle numbers but government support to develop infrastructure, improving the commercial viability of this alternative, will assist in progressing this alternative.
- Establishment of container depots to complement transport activity centres in Kewdale and Picton, providing support services to road and rail operators, will further enhance these alternatives.
- Information on container availability and needs is important to achieving overall efficiencies and as such development of an overarching solution to link and complement individual systems current in use.

This study identifies opportunities to achieve significant enhancements on the current system, achieving both prolonged life of the current port and reduced operating costs for industry. Depending on the extent of overlap of different initiatives the total impact of implemented the recommended alternatives based on current volumes is estimated as follows:

	Low case	High case
• % of teu through the port that are impacted	42%	84%
• % reduction in truck numbers	28%	55%
• Supply chain savings	\$7.5 M	\$15.1 M

Key actions identified to achieve this are shown in the table overleaf.

Alternative	Priority	Timing	Actions & Responsibilities	Comments
Geographical Alternatives				
Fremantle Rail Terminal Efficiency	High	Prior to completion of Fremantle rail redevelopment	<ul style="list-style-type: none"> Investigate optimal operational arrangements for road rail interfaces and key activity centres in the port precinct including stevedores, Customs, AQIS, container parks and fumigation. For example there may be opportunities for a commercial arrangement whereby stevedores use their equipment during downtime to transfer containers between stevedores and the rail terminal. Efficient operational interfaces between the stevedore and the rail terminal need to consider implications of fence location and port security constraints. Opportunities to optimise this interface between the stevedore and the rail terminal and the most appropriate positioning of the fence and handling of these security issues should be investigated and implemented. Investigate the implications of establishing a combined road / rail hub at the port compared with establishing separate road and rail hubs. This should investigate potential synergies such: as improved equipment utilisation; more efficient land use; and increased flexibility to implement efficient container management systems such as two way loading at stevedores. Constraints such as competition between rail and road modes and different organisational and contractual arrangements that may effectively deliver an efficient road / rail hub should be explored. In conjunction with this study options for stand alone road and rail hubs should be explored. In particular the optimal structure of a road hub whether it be a private operation used by a few larger operators versus the structure and implications for a facility accessible to all road operators potentially delivering increased benefits in return for increased complexity to establish. With regards to rail terminal operations at the Port, benchmark current rates being charged and monitor performance to verify that an efficient and cost effective service is being offered to support the use of rail. This information should be shared with the terminal operator and industry on a regular basis. <i>FPA</i> Negotiate for Customs and AQIS functions to be undertaken at multi modal terminal on the basis of eliminating the impediments to the efficient movement of containers. <i>FPA / Implementation Group</i> 	<p>Rail is critical in the reduction of road vehicle numbers in the port precinct and it is important that the efficiencies of the redesigned infrastructure are reflected in contractual agreements with both stevedores and terminal operator. The terminal agreement will need to include financial support over a defined period until critical mass ensures commercial viability</p> <p>Land availability in the port precinct is limited and usage needs to be redefined with a strategy consistent with reducing vehicles numbers. Development of a single multi modal terminal may be appropriate and deserves further examination.</p>

Alternative	Priority	Timing	Actions & Responsibilities	Comments
Kewdale Rail	High	This year	<ul style="list-style-type: none"> Implement strategies to support rail and make it commercially viable until it builds critical mass. This needs to include definition of the chargeable freight rates to ensure rail is a commercially acceptable transport mode. Undertake rail awareness program in target market area (Kewdale / Canning Vale) with emphasis on advantages of rail such as improved reliability of delivery time. <i>Implementation Group / DPI</i> 	<p>Of the rail options Kewdale has the potential to have the highest impact on reducing vehicle numbers therefore it is critical to ensure that the efficiencies gained by the new rail access are reflected both commercially and operationally.</p>
		This year	<ul style="list-style-type: none"> Develop rail capacity on confirmed undertakings from clients and reflect incentive in commercial arrangements with rail clients. Negotiate with Shipping lines the capability to dehire and rehire containers at Kewdale terminal including importer /exporter alignment and direct rail from /to stevedores of empty containers. Negotiate for Customs and AQIS functions to be performed at Kewdale terminal. Explore the opportunities to establish a container depot at Kewdale with shipping lines and existing FLS operator at Kewdale. Ensure commercial arrangements proposed achieve the objectives. <i>Implementation Group / DPI / FLS</i> 	<p>Successful, negotiations with shipping lines on the development of a container park at Kewdale will reduce the number of empty containers being relocated to the port and provide certainty in supply of containers to the Exporters. The preferred location is within the rail facility though this is not critical to the development of the container park.</p> <p>Provision of Customs and AQIS services at Kewdale will reduce the delays associated with rail in its current form thus over coming one of the objections to use of rail.</p>
		Prior to completion of Kewdale land redevelopment	<ul style="list-style-type: none"> Define and preserve land use in lease of third terminal at Kewdale. Reflect common user/ multi modal status in the lease arrangements for the proposed third terminal at Kewdale including access for third party operators willing to operate port shuttle service. <i>DPI / PTA</i> 	<p>Critical mass to ensure the viability of the rail facility can be achieved by the facility being multi modal as not all containers due to various commercial considerations are suited to rail.</p>

Alternative	Priority	Timing	Actions & Responsibilities	Comments
Picton Rail	High	This year	<ul style="list-style-type: none"> Confirm South West Development 'Picton Enterprise Park' as preferred location for Intermodal Terminal / warehousing precinct Define and preserve land use in lease of terminal DPI / South West Development Corporation 	<p>This has a very significant impact on vehicle numbers both in the port precinct and on the Fremantle – Bunbury road network</p> <p>The provision of government funding and support to contribute to the development of infrastructure and business case is likely to significantly increase the speed and extent of this option being adopted. In the interim ARG should be encouraged to provide an initial service to Picton</p> <p>Picton also provides the opportunity to develop an inland container park and facilitate the direct raiiling of empty containers from the Port of Fremantle</p>
		This year	<ul style="list-style-type: none"> Develop business case for Terminal development including market survey, operational specification and warehousing specification. Implementation Group 	
		This year	<ul style="list-style-type: none"> Determine commercial and funding arrangements for the development / operation of the facility including the level of Government support (including Auslink funding opportunities) DPI 	
		Prior to completion of Fremantle rail redevelopment	<ul style="list-style-type: none"> Establish interim rail service direct to Port of Fremantle with ARG based on the current Picton service Implementation Group 	
		1-2 years	<ul style="list-style-type: none"> Negotiate with shipping lines the establishment of container park at the terminal facility Negotiate with Customs / AQIS the provision of services at the terminal Reflect common user/ multi modal status in the lease arrangements including access for third party operators Determine service requirements and seek expression of interest in operating terminal. Tender to be based on benchmark operating costs, productivity KPIs and implementation support for a defined period. Benchmark tendered rates against industry standards. Undertake rail awareness program in target market area with emphasis on non transport cost benefits DPI / Implementation Group 	

Alternative	Priority	Timing	Actions & Responsibilities	Comments
York Rail	High	This year	<ul style="list-style-type: none"> Source empty containers for the stock food industry from de-hired imported containers at Kewdale multi modal facility prior to development of rail infrastructure at York. Conduct awareness program with industry <i>Shipping Lines / Stock Food industry / Implementation Group</i> 	<p>The York case study identified a specific opportunity for importer / exporter alignment with empty containers being sourced from Kewdale. This can provide an interim solution prior to the development of rail infrastructure at York. Post the introduction of the rail service the sourcing of empty containers from Kewdale remains an option provided connection to the narrow gauge network is included in the development of Kewdale.</p> <p>The least cost rail option for York is the development of a private siding supported by commercial arrangements that provide access to other stock food exporters.</p>
	Moderate	This year	<ul style="list-style-type: none"> Identify preferred rail option at York, either common user facility or private siding. <i>DPI / Implementation Group / Industry / Local government</i> 	
		This year	<ul style="list-style-type: none"> Determine commercial and funding arrangements for the development / operation of the facility including the level of Government support <i>DPI</i> 	
		Year 1 - 2	<ul style="list-style-type: none"> Negotiate with Customs /AQIS the provision of services at the terminal <i>Implementation Group</i> 	

Alternative	Priority	Timing	Actions & Responsibilities	Comments
Road Hub - port precinct	Moderate	This year	<ul style="list-style-type: none"> Under take land usage review of Port land in conjunction with the development of multi modal terminal incorporating rail Define land usage for a multi modal terminal (Rail /Road) and include caveat in lease to preserve defined use <i>FPA</i> 	<p>This alternative has significant commercial and community benefits. Its development is anticipated to support the implementation of the operational alternatives but it may also compete with some of the geographical alternatives such as rail that are more suited to reducing vehicle numbers. Overall it is likely that this type of facility will be most advantageous for servicing industry surrounding the immediate port area. Given the potentially significant commercial advantages available from this type of facility it is important that any government support is not seen to deliver commercial advantages to individuals</p>
		This year	<ul style="list-style-type: none"> Support industry initiative to develop port road hub concept Facilitate improved communications and performance KPIs between Transport operators and stevedores to ensure efficient use of resources Under take awareness program in target market area with emphasis on non transport cost benefits <i>DPI / FPA / Implementation Group</i> 	

Alternative	Priority	Timing	Actions & Responsibilities	Comments
Road Hub - northern suburbs	High	1 – 2 Years	<ul style="list-style-type: none"> Identify suitable locations and ensure appropriate zoning for development of this facility in the future. Define land usage and include caveat in lease to preserve defined use. Develop traffic strategy to ensure optimum efficiency in road operations to ensure least cost line haul to the hub facility and minimise community impact. <i>DPI / Local Councils / Implementation Group / Main Roads</i> Determine commercial and funding arrangements for the development / operation of the facility including the level of Government support (Auslink Funding) <i>DPI</i> 	With anticipated increasing development in the northern suburbs the benefits of this alternative are expected to increase more quickly than for some of the other geographic options with slower growth. There is an opportunity to plan for a transport hub in the northern suburbs that will stimulate industry growth, ensure future efficient freight movements and protect the future community from adverse affects of inadequate transport facilities.
	Moderate	1-2 Years	<ul style="list-style-type: none"> Negotiate with shipping lines the establishment of an inland container park at the facility as part of the overall inland container park strategy <i>Implementation Group</i> 	
		2-3 Years	<ul style="list-style-type: none"> Conduct awareness program with industry establishing in the new industrial areas <i>Implementation Group</i> 	
Road Hub - eastern suburbs	High	1-2 Years	<ul style="list-style-type: none"> Work with industry to develop an efficient road hub in this precinct. Establish a container depot in the Kewdale area, ideally with a direct interface with road and rail facilities – to optimise efficiency. Different commercial and organisational arrangements should be investigated, including independent operation of road, rail hubs and container depot versus combined operations. The potential efficiencies versus the increased commercial complexity for different arrangements should be assessed to determine the optimal outcome. Explore with specific organisations interest in operating these facilities. Identify potential sites and secure their availability. Incorporate assessment of potential for the road terminal to compete with rail and strategies that can reduce this. <i>Implementation Group</i> 	<p>This will compete with the Kewdale rail shuttle to some extent but has a reduced potential impact on vehicle numbers.</p> <p>It also has significant positive outcomes and any move by industry to establish this type of facility should be encouraged.</p> <p>To date a road hub in Kewdale has not been taken up by industry despite significant benefits. This is likely to reflect historical patterns and the costs of relocating to a new facility. Lack of availability of a cost effective site may also be a deterrent.</p> <p>The establishment of a container depot at the Kewdale rail terminal is anticipated to deliver many benefits to road and rail and build synergies between the two modes.</p>

Alternative	Priority	Timing	Actions & Responsibilities	Comments
Southern Suburbs Road Hub	Low	Consider in the context of developments for Outer Harbour & establishment of a Picton Port rail shuttle.	<ul style="list-style-type: none"> Ensure Outer Harbour Proposals incorporate efficient solutions for the transport of freight. 	These options have relatively limited impact primarily due to limited market coverage and in the interim can be serviced through the AGR terminal. To ensure optimum transport and land use in the future the Outer Harbour development needs to encompass a land use/ transport strategy prior to the population of any new industrial land.
Kwinana Rail	Low		<ul style="list-style-type: none"> Define land usage for a multi modal terminal (Rail /Road) and include caveat to preserve defined use Ensure common user status for the multi modal terminal Develop service with Picton rail service Expand current ARG Kwinana terminal to a level that will efficiently handle the freight volumes on a rail service from Picton to Kwinana <p>DPI/ FPA</p>	
Kalgoorlie Rail	Low	Ongoing	<ul style="list-style-type: none"> Encompass freight task in proposed Intermodal Terminal <p>DPI</p>	Rail market share has little growth opportunity other than containerisation of the current break bulk task.

Alternative	Priority	Timing	Actions & Responsibilities	Comments
<i>Operational Alternatives</i>				
Two way loading at Stevedore	High	Immediate	<ul style="list-style-type: none"> All of these initiatives to be progressed with the relevant segments of the supply chain. Assign accountability for the introduction of each initiative in collaboration with key stakeholders, reporting back to the Taskforce. Scope Container Management System to enable visibility of containers external to the port and to act as a communication medium across the supply chain, facilitating each of these alternatives. <p><i>Implementation Group</i></p>	<p>Each of these options deliver benefits to industry and the community. They are complex to implement broadly given that they require a high level of collaboration across industry. There are benefits available to all parties and the complex nature of these opportunities means the overall impact and take up is likely to be greater with involvement from a third party facilitator</p> <p>Importer / exporter alignment and movement of empties to and from stevedores will be supported through establishment of metropolitan road / rail hubs and container depots away from the port.</p>
Importer / exporter alignment	High	Immediate		
Empties to / from Stevedore	High	Immediate		

