Freight Network Review

Working Group (3)

Strategy to increase the use of rail for the transport of containers to and from the Fremantle port

June 2002

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Freight Network Review		
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This paper is one of a series of papers for the Freight Network Review.

The Working Papers in the series are:

Paper No 1	Sustainability in Relation to Freight
Paper No 2	Freight Network Master Plan
Paper No 3	**Strategy to Increase the Use of Rail**
Paper No 4	The Role of Regional Ports in Reducing Metropolitan Freight Activity
Paper No 5	Fremantle Inner Harbour Capacity and Limits
Paper No 6	Hypothecation of Funds

Contents

1 Executive Summary

The Fremantle Inner Harbour is Western Australia's major general cargo port and its only dedicated container port.

The State Government strongly supports the continued operation of the Fremantle Inner Harbour, and the strong message from the community is that it also supports the working port.

Trade through the Inner Harbour, particularly the container trade, has been growing strongly over the past decade. Container trade has almost trebled over that time.

In year 2000 the Fremantle Inner Harbour Port Development Plan was completed. The Plan, which was prepared by a team of international, national and local consultants, set out a framework for the future development of the Inner Harbour. The plan was prepared in consultation with the community, industry and State Government agencies.

The trade projections, prepared as part of the Plan, forecast continued growth trends for most trades but most significantly for the container trade. Since preparation of the Plan, the annual container trade growth has actually been higher than the high growth forecasts.

Along with the growth in trade has come a growth in freight transport activity. At present the majority of cargo is transported by road, with a relatively small amount by rail. In the case of the container trade about 97% of containers are transported by road and the 3% by rail. Containerised cargo is the major generator of land transport to and from the Inner Harbour.

Trucks represent 9% or less, by number, of the vehicles on major Fremantle Roads. Around half of these trucks are port related and have an origin or destination at the Inner Harbour and the rest carry other freight. A community survey, undertaken as part of the Freight Network Review, clearly shows that the level of road freight is of concern to a significant portion of the Fremantle community. There was overwhelming support for the greater use of rail to transport freight.

There is potential for rail to have a significant role in carrying a much larger proportion of containerised cargo than it does at present. Rail can offer significant social and environmental benefits when compared with road transport. However on short haul routes in particular, (such as between the port and Kewdale) it is currently commercially unattractive compared to road.

The main aim of Working Group 3 has been to develop strategies to significantly increase the share of containers moved to and from the port by rail. A target share for rail of 30% of these movements has been set.

To achieve this percentage of rail it is clear that:

- there is a need to improve rail infrastructure to enable more efficient transport and interchange of cargo at the port and inland terminals,
- the rail market share will remain low unless the present commercial arrangements and commercial signals are substantially changed,

- further industry consultation is needed to create alliances and reach agreements to establish a rail operating environment that will maximise the use of rail in a cost competitive manner, with the least possible social impacts,
- strong Government support, in addition to that required for infrastructure, is likely to be needed in the short term. Support can be justified in terms of the environmental and social benefits which would accrue from increased use of rail,
- this support should take the form of promotion and encouragement of a new paradigm of co-operation by most if not all the players in the industry together with the setting of targets for the rail share of the task which if not met would then give rise to further action as set out below,
- if targets are not met then the Government should tender for the provision of services which would enable Government to identify the form, level and duration for any subsidy required. Administrative and funding arrangements would also need to be determined, and
- new technology may have the potential to provide benefits with regard to noise reduction and other environmental impacts.

The broad recommendations made by Working Group 3 are as shown below. Each recommendation is linked to a specific key issue.

Detailed actions, timeframes and responsibilities relating to each of these broad recommendations, are shown in the form of Action Tables in Section 10.

Recommendation 1 - Infrastructure

Government investment in rail infrastructure is required. Early requirements include the proposed direct rail loop and North Quay rail terminal and associated works which would enable both narrow and standard gauge access to North Quay. Over the longer term, improvements to existing infrastructure at the Kewdale rail complex, the provision of increased height clearances on the North Quay to Fremantle rail corridor to enable double stacking, and development of expanded inland container terminal facilities at Northam and Bunbury are likely to be required.

Refer to Actions: I-1 to I-8

Recommendation 2 – Social and Environmental

Rail has significant environmental and social benefits when compared with road transport. With improved rail infrastructure and operational arrangements rail can carry a much greater share of port container cargo and reduce the growth of road freight. However, in establishing commercial and operational arrangements for future rail services, every effort should be taken to ensure that efficient rail usage is achieved whilst avoiding the need for a higher than necessary number of trains passing through Fremantle.

Refer to Action: SE-1

Recommendation 3 – Commercial and Operational

Commercial and operational arrangements, must encourage the operation of an efficient and competitive rail freight service between the port, Kewdale and other key transport nodes such as Northam, Bunbury, Kwinana and possible Albany. The arrangements must take into account operation of the North Quay rail terminal, inland terminals and the operation of trains between the port and inland terminals. In determining the best commercial and operational arrangements extensive consultation is needed with key private sector stakeholders, and the end product should have broad industry and stakeholder support.

Refer to Actions: CO-1

Recommendation 4 – Government Support – New Paradigm & Targets

Strong government support will be required in order to achieve the target share for rail. This should take the form of promotion and encouragement of a new paradigm of co-operation together with the provision of the necessary port based infrastructure and the setting of targets which, if not met, would mean that the action proposed in the next recommendation is activated. Preliminary estimates of the type of quantifiable targets which are proposed are a rail share of 15% of the container volumes which leave North Quay and Rous Head areas of the Port within 18 months of the rail loop and the port rail terminal being completed with a further 2 percentage points growth in the share each year thereafter until 30% is achieved.

Refer to Actions: GS-1 to GS-2

Recommendation 5 – Government Support – Basis for Subsidy

If the new paradigm of co-operation either has not or will not achieve the desired targets then the Government should identify the form, level and duration for any subsidy required to achieve these targets, which is likely to require the Government inviting industry to tender for services to ensure the subsidy is appropriately structured. As part of this process it will be necessary for Government to determine how any subsidy would be administered and the funding source. It should be recognised that a higher level of support is likely to be required on the shorter routes and in the early stages of growth of the rail business.

Refer to Action: GS-3

Recommendation 6 – New Technology

New technology - it is recommended that the new Cargo Sprinter freight train, now available in Australia for trial, be assessed in terms of its operational performance and capabilities, its environmental qualities and its commercial and social viability for the freight task required.

Refer to Action: NT-1

Recommendation 7 – Planning Processes and Land Use Management

Put planning mechanisms in place to ensure the protection of freight rail corridors from urban (and other) encroachment, consistent with the intent of the State Planning Strategy and the State Industrial Buffer Policy. Consideration of impacts on rail corridors should be undertaken at the earliest possible stage of the planning process, ie prior to finalisation of rezoning, structure planning or subdivision design. For instance, amendments to the MRS and Local Government Town Planning Schemes adjacent to rail corridors should incorporate noise and risk management plans.

Refer to Actions: PP-1 to PP-3

2 Introduction

Working Group 3 was established to develop a **Strategy to Increase the use of Rail for the Land Transport of Containers to and from Fremantle** and to plan, design, schedule and advise on funding the required infrastructure upgrading and other support, including a rail loop and new rail terminal and to determine the basis for and justifiable level of required government support.

As a separate but parallel part of the process, the FPA and the DPI/Sea Freight Council would work towards developing an action plan to support and follow on from implementation and would establish a program of consultation with stakeholders in the rail-based supply chain to encourage and activate them to 'package', sell and operate new rail-based services.

A copy of the Project Brief is included as ***Attachment 1*** to this report.

Participants in the working group include two community representatives, two rail industry representatives, Fremantle Ports, WA Government Railways, Department for Planning and Infrastructure, and the Sea Freight Council of WA.

3 Objective

Approximately ninety-seven percent of all containers handled through the Inner Harbour at Fremantle are currently moved by road. The objective is to significantly increase the share of containers moved to and from the port by rail, and a target share for rail of 30% of these movements has been set.

4 Background

Details of the Fremantle Port, its current and predicted future trade together with issues related to the freight land transport task for road and rail, can be found in the papers for the Freight Congress held in October 2001.

- The land transport task for the Inner Harbour is a mixture of road and rail transport, but with the vast majority currently being carried by road. The most significant trade, in terms of land transport volumes, is the container trade. In the year 2000/2001 approximately 97% of containers were transported by road and 3% by rail.

- Rail access is currently provided to the North Quay via the Leighton Marshalling Yards. The only freight rail line servicing the Fremantle Inner Harbour runs from the port, across the Swan River (via the Leighton Marshalling Yards), through the west-end of Fremantle to Cockburn. At Cockburn this line meets the main Kwinana to Kewdale freight line. The freight line currently shares the same corridor as the passenger line in the section between the Leighton Marshalling Yards and the Fremantle Station.

- Some years ago at the height of the grain season, up to 12 trains per day travelled on this line hauling grain to Kwinana for export. Currently, on average, there is one train per day carrying mainly containerised cargo into or out of the Inner Harbour, so in terms of capacity, this railway line is under utilised. As port trade grows, it will be important for rail to carry a much larger proportion of the land transport task.

- Because the Leighton Marshalling Yard site is to be re-developed for urban uses, a new rail connection to the port is required. The new rail loop will have to be constructed before the urban re-development can occur.

5 The Freight Task

In 2000/2001 the Inner Harbour container trade was 350,000 teu's, approximately three times the level of ten years ago. The container trade is expected to grow to around three times current levels by about the year 2017

The containerised cargo handled in the Fremantle Inner Harbour has a wide range of origins and destinations. The broad origins and destinations are shown in Figures 1 and 2.

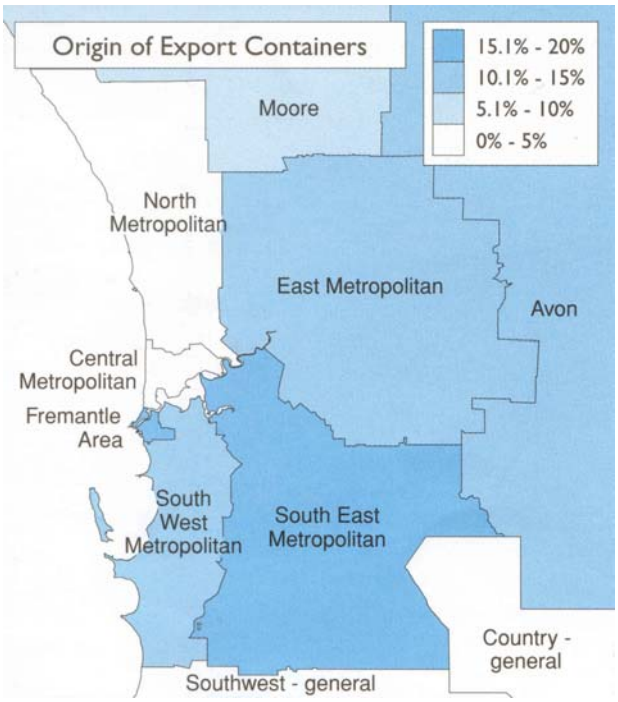

Figure 1

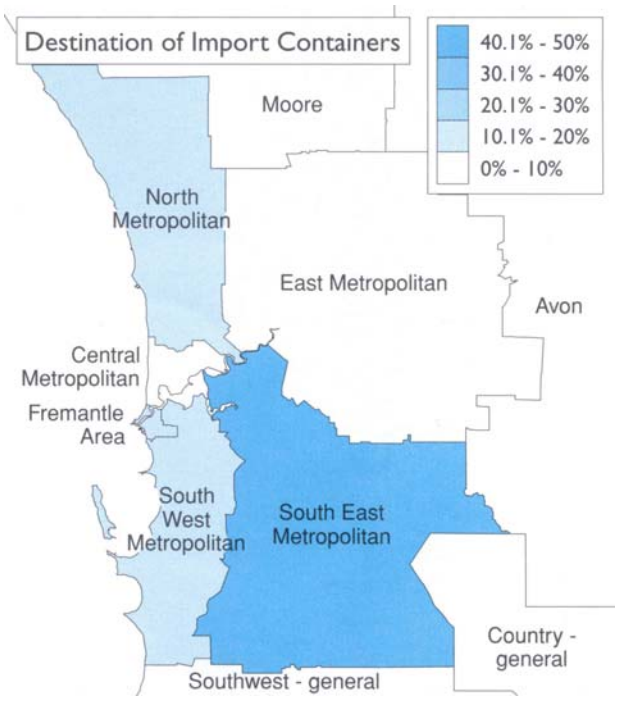

Figure 2

Source: WA Port Operations Task Force *(Reference 3)*

However, the broad range of origins and destinations is one reason for road freight tending to dominate the transport task. Also, the majority of containers have their origins or destinations in the metropolitan area which means relatively short haulage distances are involved. Road transport offers the greatest flexibility, and the capacity to efficiently move cargo directly from port to warehouse or factory, or vice-versa, over these relatively short distances.

Based on the origins and destinations of containerised cargo, the contestable market for rail is around 40% of the container trade.

6 Key Issues for Rail Development

Attached to the Project Brief for this project was a list of known key issues for rail, as well as a summary of major issues to be addressed in an action plan. The summary of major issues is included as part of ***Attachment 1***.

At the commencement of the project Working Group 3 undertook an independent issues identification process. The issues identified by the working group were reasonably consistent with those originally identified. The main issues identified and discussed by the Group are shown in ***Attachment 2.***

7 Analysis

7.1 Infrastructure

7.1.1 Rail Loop to North Quay and North Quay Rail Terminal

- The Fremantle to Cottesloe Integrated Transport Plan (Department for Planning & Infrastructure 2001) shows the new recommended alignment for the rail loop. The cost of the proposed rail loop and associated works has been estimated to be approx. $9 million.

- Planning is also nearing completion for the development of a new rail terminal within the port at North Quay. The new rail terminal will be integrated with the port container terminals allowing more efficient cargo transfer. It is likely that the rail terminal will be constructed in two stages to meet demand as the rail freight business grows. Stage 1 of the new rail terminal requires the re-alignment of the southern end of Port Beach Road to traverse through the old Ampol industrial site. There are plans to construct a new sea-wall and undertake dune remediation work in association with this. The plans involve re-alignment of Port Beach Road to a lesser extent than is currently shown in the MRS, thus leaving more land for foreshore access and recreation at Port Beach.

7.1.2 Kewdale Rail Terminal

- The Kewdale Rail Terminal is a key element of the port related rail freight system. The Terminal is predominantly set up for interstate trains running on standard gauge track. Narrow gauge track was removed from the Terminal some years ago, but could be reinstated in the future, provided there was found to be a commercial demand. Opportunities exist to develop a dedicated port rail terminal within the Kewdale complex in the future if demand justified it. There is also the potential to develop an inland container terminal together with an area for empty container storage which is an essential part of any container port/terminal operations.

- Depending on the scale of freight movement, a train operation from port to Kewdale could either be directed to a dedicated rail terminal within the Kewdale complex, (with cargo moved between other terminals and businesses in the Kewdale Industrial Area by road transport), or trains might move directly between the different existing terminals within the Rail Terminal. Commercial factors and alliances could influence this to some extent.

- In the earlier stages of growth of the rail business existing terminals are likely to be used, but in the longer term a dedicated terminal may be required. The land which constitutes the Kewdale Rail Terminal needs to continue to be reserved for railway purposes. In addition, the possibility of direct rail connection between the southern terminal and the line to Fremantle should be allowed for by reservation of the appropriate land.

- The growth in use of the Kewdale Terminal will require long term improvements to the rail infrastructure on the approaches to the Terminal, including removal of a level crossing over which all trains entering or leaving the Terminal pass.

7.1.3 Rail Corridor Fremantle to Kewdale

- The rail corridor from Fremantle to Kewdale (described in Section 4 above) is adequate for the predicted number of trains required to carry rail freight to and from the port. Freight rail services have to be co-ordinated with passenger rail services only in the vicinity of North Fremantle and the railway bridge across the Swan River. Standard and narrow gauge operations are available in the corridor and will link directly with North Quay when the proposed rail loop is built.

- Height clearances along the corridor are limited by overhead power lines at some locations, and therefore double stacking of containers on trains is not possible at present. Studies recently undertaken have identified the impediments to double stacking, and the estimated cost to remove these impediments in the future is about $2.3 million. Double stacking has the potential to reduce the number of trains required to transport a given amount of cargo, but handling of costs would be marginally higher in the rail terminals. Double stacking will become more desirable in the longer term as rail freight grows.

7.1.4 Other Inland Terminals

The future requirements for inland container terminals, particularly in regional centres, have not been considered in detail at present. However their relevance to the freight task is recognised and it is important that future land requirements be identified and protected through the planning process.

Regional locations identified as future transport nodes for port related cargo include Northam and Bunbury. Albany may also be a potential future transport node.

7.2 Social and Environmental Issues

7.2.1 Introduction

A Triple-Bottom-Line analysis requires an assessment not only of the financial aspects of a proposal in terms of commercial viability but also an analysis of the implied environmental costs and an assessment, necessarily more subjective, of the resulting social impacts. This section presents a quantification of the environmental cost savings arising from the increased use of rail together with an estimate of the social impacts, namely the consequent reduction in truck journeys and the savings in consumption of fossil fuels and road damage.

Please note that tables and charts relevant to Section 7.2 are contained in ***Attachment 3.***

7.2.2 Background

A diagram illustrating the sources and destinations of containers using the Inner Harbour has been shown earlier. In order to ascertain the proportion of the freight task which could be considered contestable by rail, the data has been viewed from the perspective of potential "Inland Container Terminals" (ICTs). These ICT's have been defined as Kewdale (including Forrestfield), Kwinana, Bunbury (including the SW) and Northam (including York and Kalgoorlie). The data shows the following distribution of the freight task:

Kewdale	37%
Kwinana	18%
Bunbury	11%
Northam	10%
Other	26%

A closer look at the actual origins and destinations of the freight together with consideration of the commodity being carried, leads to the following conclusions about the percentage of freight to/from each of the potential container terminal locations which could be considered contestable by rail:

50% of Kewdale freight
45% of Kwinana freight
42% of Bunbury freight
87% of Northam freight
0% of other freight

The analysis shows some **40% of all containerised freight to and from the port can be considered contestable by rail**. This 40% comprises 18% to/from Kewdale (50% of 37% total), 8% to/from Kwinana (45% of 18% total), 5% to/from Bunbury (42% of 11%) and 9% to/from Northam (87% of 10%).

7.2.3 Social and Environmental Costs

The Bureau of Transport Economics (BTE) has been studying the relative environmental and social costs of carrying freight by road and rail. The research includes the environmental costs associated with unfunded road damage and accident costs, air pollution, greenhouse gas emissions, noise and road congestion. The costs

do not include the waste from truck operations such as used oil & other lubricants, tyres, batteries etc which are unfriendly to the environment and create disposal problems. Using their research and the particular characteristics of the freight to/from the Inner Harbour shows that **for contestable freight, there is a 40% reduction in environmental costs as a result of switching to rail**. This is despite the relatively short rail line haul distances between the port and the prospective ICT's and the unavoidable truck journey between the ICT and the ultimate source or destination of the freight.

While there is a considerable saving in environmental costs arising from a switch to rail, it is probably the reduction in the number of truck journeys to and from the Inner Harbour that would have the most noticeable and direct impact. Had rail carried 40% of the freight task in 2001, there would have been 850 fewer truck journeys to and from the Inner Harbour every working day. Of course, ultimately the freight would have been carried by road at some stage, but not near the port and not on the congested urban road network in the central metropolitan area.
Every 600m long train can carry 90 twenty-foot containers, single stack. A train such as this, fully loaded into and out of the port, would replace 240 truck trips assuming the current truck-loading pattern.
Similarly, the efficient use of scarce fossil fuels is becoming an increasingly topical issue. Rail is almost 4 times as fuel efficient as road per tonne of freight moved. Had rail captured the 40% of freight considered contestable by rail, the saving in terms of diesel fuel consumed would have been almost 5 million litres in 2001.

7.2.4 Conclusion

There are considerable environmental cost savings and social benefits associated with the movement of freight by rail to/from the Inner Harbour. Most obvious of these benefits is the reduction in the number of trucks travelling to and from the port.

7.3 Community Survey Results

The results of a recent community survey undertaken as a part of the Freight Network Review work sought feedback on issues relating to the greater use of rail to transport freight to and from the port.

The results of the survey were overwhelmingly in favour of the greater use of rail as a way of minimising environmental and social impacts, particularly those related to the growth of port related road freight traffic. The overwhelming support for rail was a consistent finding whether the respondents lived close to or away from the rail line.

7.4 Commercial & Management Issues and Industry Stakeholder Consultation

Consultations with key industry stakeholders has commenced and is being conducted jointly by Fremantle Ports and Dept for Planning and Infrastructure. Preliminary discussions have been held to obtain industry views on the critical issues in succeeding to have rail gain a greater share of the land based movement of containers to and from Fremantle.

Some common themes have emerged from the discussions, namely that:

- the commerciality of rail services is currently considered marginal at best given the very competitive road rates that exist and because of demographic and geographic issues,
- Kewdale/Forrestfield, Kwinana, Bunbury and Northam/Kalgoorlie were the most likely areas for inland intermodal terminals,
- the current cost of lifts at the NQ rail terminal was a commercial impediment that needed to be overcome (this could potentially be achieved by ensuring better integration between the container terminals and the rail terminal),
- there was a need for widespread industry support for rail and a concentrated effort to encourage a modal shift from road. ⇨ attitudes need to be changed,
- there was a need for rail access charges to be structured to support growth in rail use,
- there was a need to develop sustainable two-way traffic,
- up-graded terminal infrastructure at North Quay was a priority, and
- “middle-men” adding costs to the rail movement needed to be eliminated.

Industry representatives on the Working Group have commented that the comparative costs of road and rail transport are such that a stand-alone rail service from the Port is not currently sustainable and that the rail target share will not be met without some level of Government support.

There were differing views from the industry stakeholders on arrangements for delivering the range of elements comprising the combined rail and road transport operation.

- some saw that for the services to be successful the one party needed to control all aspects including the ICT operation, the rail service and the NQ terminal operation,
- others saw a need for common user terminals at each end, with reasonable transparent charges being the key to enabling them to commence a rail service,

- the stevedores viewed it as important to be involved in the NQ terminal operation, possibly with Fremantle Ports, or having unconstrained access to the terminal in a manner that allowed them to integrate container and rail terminal operations. They would then link this to integrated rail and ICT operations.

No clear model to ensure success in the long term has yet emerged.

While mindful of protecting and advancing their own commercial interests, the general view of the major players was that it would not be an easy task for them to commence a successful service in their own right. In this context, there was recognition that there needed to be a paradigm shift towards cooperation and that perhaps the best chance of achieving critical mass and commercial success would arise from a joint effort and some of the parties have indicated a preparedness to consider working together to see what could be jointly achieved.

It is intended to progress further discussions with the major players to confirm their willingness to participate in such discussions with the aim of having this group clearly specify the operating and other arrangements that they see as critical in making rail a success and achieving at least a 30% share of the land transport movement of containers to and from the port.

These discussions should be encouraged by the Government as it is strongly viewed that the involvement of these parties in the development of a commercial rail strategy is critical. If such discussions can be brokered, and the group can specify what it sees as the ideal operating framework to achieve the Government's objectives for rail, the task will then be for Fremantle Ports/DPI to determine how this framework can be delivered. This clearly needs to be done in an open and transparent way that does not provide any competitive advantage to this group over others and allows others to have an equal chance to establish and operate rail services to and from the port.

The possibility of the major players grouping together to consider how they could jointly provide a viable service is seen as providing a good opportunity for a successful rail service to develop.

A further issue is that shippers will clearly want to see cost savings in shifting to rail. However, to assist a viable rail service to develop, Government/Fremantle Ports also need to consider their role in encouraging shippers to switch to rail.

It is considered that strong Government support for rail can be justified in terms of environmental and social benefits that will accrue from increased rail use and the community support for an increased rail share. If it is established that targets for increased rail share are not either met, or able to be met, in the absence of direct subsidies, it will be necessary for Government to identify the form, level and duration of direct subsidies through inviting industry to tender for the provision of such services and to consider how it could be funded and administered in order to best meet industry requirements. In addition to funding the port based infrastructure, possible forms of support may include direct subsidy of service costs, relief from track access charges or possibly incentive payment to rail users to overcome the cost disadvantage compared with the equivalent road alternative.

8 Conclusions

8.1 There are social and environmental benefits from increasing the use of rail. Particular benefits relate to reducing the growth of port related road freight movements through Fremantle.

8.2 Feedback from industry indicates that road trucks are currently commercially superior to rail for distribution from the port on the short haul container market sectors such as between the port and Kewdale or Kwinana. Rail has the potential to be more competitive with road for market segments where rail has the greatest potential advantage, ie on the longer haul regional routes such as Kalgoorlie, Northam or Bunbury.

8.3 The current rail commercial disadvantage is primarily related to commercial relationships and market forces. Rail infrastructure improvements will not in themselves reverse this situation, however some infrastructure changes, such as construction of the proposed new rail loop and port rail terminal, will improve cargo handling and rail operational efficiency and are seen as necessary to support commercial initiatives to increase the use of rail. In particular the port rail terminal has the potential to be operated in a manner which will reduce the cost of loading and unloading containers on the rail service.

8.4 The rail market share will remain low unless the present commercial arrangements are substantially changed. Increased market share will require deliberate policy or other action to change the current market balance. Intervention in the commercial market is justified, in order to increase the use of rail, reduce the social and environmental impact of road transport and to realize the full potential of the existing asset of the Port of Fremantle.

8.5 Further industry consultation is needed to create alliances and reach agreements to establish a rail operating environment that will maximise the use of rail in a cost competitive manner, with the least possible social impacts.

8.6 It is considered that Government support for rail can be justified in terms of the environmental and social benefits that will accrue from increased rail use. It is evident that strong Government support will be needed to assist the achievement of a significantly increased rail share. This support should take the form of promotion and encouragement of a new paradigm of co-operation together with the provision of port based infrastructure and the setting of targets which if not met would mean that the action proposed in the next paragraph would be necessary. Preliminary estimates of the type of targets which could apply are set out in the recommendations below.

8.7 If it becomes evident that co-operation either has not or will not achieve the desired targets then it will be necessary for Government to identify the form, level and duration for any subsidy required which is likely to require the Government tendering for the provision of services to ensure any subsidies are as efficient as possible. As part of this process the Government would also need to consider the funding source and the method by which any subsidy would be administered.

8.8 New technology may have the potential to provide benefits with regard to noise reduction and other environmental impacts. For example the new Cargo Sprinter concept offers the potential for a quieter more environmentally friendly service, but its capability for the freight task needs to be properly assessed.

9 Recommendations

The broad recommendations made by Working Group 3 are as shown below. Each recommendation is linked to a specific key issue.

Detailed actions, timeframes and responsibilities relating to each of these broad recommendations, are shown in the form of Action Tables in Section 10.

Recommendation 1 - Infrastructure
Government investment in rail infrastructure is required. Early requirements include the proposed direct rail loop and North Quay rail terminal and associated works which would enable both narrow and standard gauge access to North Quay. Over the longer term, improvements to existing infrastructure at the Kewdale rail complex, the provision of increased height clearances on the North Quay to Fremantle rail corridor to enable double stacking, and development of expanded inland container terminal facilities at Northam and Bunbury are likely to be required.
Refer to Actions: I-1 to I-8

Recommendation 2 – Social and Environmental
Rail has significant environmental and social benefits when compared with road transport. With improved rail infrastructure and operational arrangements rail can carry a much greater share of port container cargo and reduce the growth of road freight. However, in establishing commercial and operational arrangements for future rail services, every effort should be taken to ensure that efficient rail usage is achieved whilst avoiding the need for a higher than necessary number of trains passing through Fremantle.
Refer to Action: SE-1

Recommendation 3 – Commercial and Operational
Commercial and operational arrangements, must encourage the operation of an efficient and competitive rail freight service between the port, Kewdale and other key transport nodes such as Northam, Bunbury, Kwinana and possible Albany. The arrangements must take into account operation of the North Quay rail terminal, inland terminals and the operation of trains between the port and inland terminals. In determining the best commercial and operational arrangements extensive consultation is needed with key private sector stakeholders, and the end product should have broad industry and stakeholder support.
Refer to Actions: CO-1

Recommendation 4 – Government Support – New Paradigm & Targets
Strong government support will be required in order to achieve the target share for rail. This should take the form of promotion and encouragement of a new paradigm of co-operation together with the provision of the necessary port based infrastructure and the setting of targets which, if not met, would mean that the action proposed in the next recommendation is activated. Preliminary estimates of the type of quantifiable targets which are proposed are a rail share of 15% of the container volumes which leave North Quay and Rous Head areas of the Port within 18 months of the rail loop and the port rail terminal being completed with a further 2 percentage points growth in the share each year thereafter until 30% is achieved.
Refer to Actions: GS-1 to GS-2

Recommendation 5 – Government Support – Basis for Subsidy

If the new paradigm of co-operation either has not or will not achieve the desired targets then the Government should identify the form, level and duration for any subsidy required to achieve these targets, which is likely to require the Government inviting industry to tender for services to ensure the subsidy is appropriately structured. As part of this process it will be necessary for Government to determine how any subsidy would be administered and the funding source. It should be recognised that a higher level of support is likely to be required on the shorter routes and in the early stages of growth of the rail business.
Refer to Action: GS-3

Recommendation 6 – New Technology
New technology - it is recommended that the new Cargo Sprinter freight train, now available in Australia for trial, be assessed in terms of its operational performance and capabilities, its environmental qualities and its commercial and social viability for the freight task required.
Refer to Action: NT-1

Recommendation 7 – Planning Processes and Land Use Management
Put planning mechanisms in place to ensure the protection of freight rail corridors from urban (and other) encroachment, consistent with the intent of the State Planning Strategy and the State Industrial Buffer Policy. Consideration of impacts on rail corridors should be undertaken at the earliest possible stage of the planning process, ie prior to finalisation of rezoning, structure planning or subdivision design. For instance, amendments to the MRS and Local Government Town Planning Schemes adjacent to rail corridors should incorporate noise and risk management plans.
Refer to Actions: PP-1 to PP-3

10 Action Tables

Infrastructure - 2002 to 2005

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ mill	Source of Funding	Timeframe	Action Agency
I-1	Construct new rail loop to North Quay (dual gauge)	New loop required to enable re-development of the Leighton Marshalling Yards	9.0	Government	Complete by end of 2004	WAGR
I-2	Re-align Port Beach Road as far as Rudderham Drive (T-intersection) – including construction of sea wall	Port Beach Road must be re-aligned to provide space for the new North Quay rail terminal. This must be done before Stage 1 of new rail terminal can be built	NA	Government (Currently unbudgeted in MRWA budget - MRWA has responsibility for the provision of main road access to ports)	Complete by end of 2004	MRWA
I-3	Construct Stage 1 of new North Quay Rail Terminal	Will provide improved rail to container terminal interface and improved container handling arrangements	3.0	FP	Complete by end of 2004	FP

Infrastructure - 2005 to 2010

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ mill	Source of Funding	Timeframe	Action Agency
I-4	Complete the approved Rous Head land reclamation (Stage A) in accordance with the FP Inner Harbour Port Development Plan.	Preferably the whole reclamation should be completed, but at least the western end must be completed to allow the extension of Port Beach Road to Rous Head Road.	NA	FP	Complete by end of 2006	FP
I-5	Extend Port Beach Road/Rudderham Dve to meet Rous Head Road, and provide new road access link to P&O terminal	Rudderham Dve must be re-aligned to make way for Stage 2 of the new rail terminal. (Port Beach Rd and Rudderham Drive in effect become one road).	NA	Government (Currently unbudgeted in MRWA budget)	Complete by end of 2007	MRWA
I-6	Construct Stage 2 of North Quay Rail Terminal (including provision of new permanent road access link to Patrick container terminal)	Needed to provide full 600 metre train length planned for and will further improve rail capacity and improve the efficiency of the container terminal to rail terminal interface.	NA	FP	Complete by end of 2008	FP

Infrastructure - 2010 to 2020

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ mill	Source of Funding	Timeframe	Action Agency
I-7	Upgrade freight rail line from Fremantle to Kewdale to provide sufficient height clearances to enable double stacking of containers.	Height clearances are currently constrained by overhead power lines etc. Studies have been undertaken to identify the work required to provide additional clearances	2.3	Government	Complete by end of 2010	FP
I-8	Develop port specific inland container terminal facilities at Kewdale.	Subject to commercial desirability, develop an inland transport node for containerised cargo collection and distribution, linked by rail to the Fremantle Port	NA	Government	TBD	DPI/WA GR

Social and Environmental - 2002 to 2005

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ mill	Source of Funding	Timeframe	Action Agency
SE-1	Social and environmental considerations are to be taken into account in developing the most effective operating model for rail services to and from the port	Rail has significant environmental and social benefits when compared with road transport. With improved rail infrastructure and operational arrangements rail can carry a much greater share of port container cargo and reduce the growth of road freight. However, in establishing commercial and operational arrangements for future rail services, every effort should be taken to ensure that efficient rail usage is achieved without the need for a higher than necessary number of trains passing through Fremantle.	Not applicable	Not applicable	By end of 2002	FP/DPI

Commercial & Operational - 2002 to 2005

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ mill	Source of Funding	Timeframe	Action Agency
CO-1	Involve key industry stakeholders in developing the most effective operating model for rail services to and from the port	There are many complexities in developing the best commercial framework for operating rail services to and from the port. The preferred framework also needs to be balanced with community needs and expectations and environmental considerations.	NA	NA	By end of 2002	FP/DPI

Government Support - 2002 to 2005

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ mill	Source of Funding	Timeframe	Action Agency
GS-1	Based on industry input, and a new paradigm of co-operation, determine the optimum administrative arrangements for the movement of port cargo to and from North Quay by rail and implement.	Commercial arrangements to be agreed & completed. Improved working arrangements and co-operation at all stages of the freight movement operation will improve the efficiency of rail.		NA	2002 to 2004	FP/DPI
GS-2	Set quantifiable targets for rail share which if not met would trigger action GS-3	The targets proposed are a rail share of 15% of the container volumes within 18 months of completion of rail loop and rail terminal and 2% growth in rail share each year until 30% is achieved.		NA	2004 to 2005	FP/DPI
GS-3	Give detailed consideration to the form, level and duration of support required to reach the rail target share.	It will be necessary to determine the source of funding and also the means by which it can be best administered	TBD	TBD	2005 onwards	FP/DPI

New Technology - 2002 to 2005

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ 000	Source of Funding	Timeframe	Action Agency
NT-1	Trial new cargo sprinter rail technology and assess operational performance and capabilities and environmental qualities. Also assess the commerciality and social impacts of this type of rail operation	Consider the new cargo sprinter technology for its practicability for use as a shuttle to transport containers between Fremantle and Kewdale with a particular focus on social, environmental and economics of operation. Company promoting the cargo sprinter concept has offered to trial the system in WA.	NA	NA	2002 - 2003	WAGR

Planning Processes and Land Use Management - 2002 to 2005

Ref. No.	Proposed Action	Background / Influencing Factors	Estimated Cost $ 000	Source of Funding	Timeframe	Action Agency
PP-1	Designate suitable land at Kewdale for container park usage and change Govt Policy to enable this use to occur on WAGR owned land.	To provide a more balanced management of empty containers and provide for a greater number of empty containers to be transported by rail	Admin	DPI	Commence 2003	DPI/WAGR
PP-2	Put planning mechanisms in place to ensure the protection of freight rail corridors from urban (and other) encroachment (consistent with the intent of the State Planning Strategy and State Industrial Buffer Policy)	MRS amendments (rezoning to urban) are still being approved adjacent to key freight rail corridors, without appropriate recognition of environmental impacts from rail operations and associated buffer requirements	Admin	DPI	2002	DPI
PP-3	Raise Local Government awareness of the need to protect strategic rail transport corridors.	Approvals are being given to inappropriate developments along transport corridors.	Admin	DPI	2002 (ongoing)	DPI