

Freight Network Review

Working Group 5

Fremantle Inner Harbour Capacity and Limits

June 2002

Fremantle Inner Harbour Project Group		
Name	Role	Representing
Greg Martin	Convenor	Main Roads Western Australia
Mark Brownell	Project Manager	Department for Planning and Infrastructure
Peter Newman	Member	Department for the Premier and Cabinet
David Nicholson	Member	City of Fremantle
John Barraclough	Member	Fremantle Ports
Paul Frewer	Member	Department for Planning and Infrastructure
Bill Sashegyi	Member	Main Roads Western Australia
Andrew Sullivan	Member	Community
Richard Graham	Member	Community
Rowan Bullock	Member	Industry
Lance Chambers	Support	Department for Planning and Infrastructure
Mike Williams	Support	Department for Planning and Infrastructure
Steve Beyer	Support	Department for Planning and Infrastructure

Freight Network Review		
Name	Role	Representing
Janette Hartz-Karp	Overall Project Facilitator	Office of the Minister for Planning and Infrastructure
Steve Beyer	Overall Project Coordinator	Department for Planning and Infrastructure

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 Road Freight Activity
Paper No. 5 Fremantle Inner Harbour Capacity and Limits
 Paper No. 6 Hypothecation of Funds

Executive Summary

The Basic Approach

- Fremantle is a working port. There is broad-based support for this to continue.
- The operational capacity within the Inner Harbour is about three times the present throughput of containers.
- However, external impacts from port-related truck movements through the community suggest a limit before then, possibly sooner rather than later.
- Six key strategies emerge:
 1. commence strategic and detailed planning for a Fremantle Port overflow port facility in the Outer Harbour to ensure that barriers can be addressed and the facility can be established when required;
 2. increase use of rail for transport of Inner Harbour containers;
 3. improve efficiency of Inner Harbour trucking operations in order to contain port-related heavy vehicles in both absolute terms and as a proportion of overall traffic;
 4. make more effective use of the road and storage network;
 5. establish regular triple bottom line monitoring of external impacts of port operations to indicate when the overflow facility may be required; and
 6. enhance the port-community relationship.

First Strategy: Outer Harbour Development

- It is well established that the only location in the metropolitan area for future port facilities to handle containers is in the Outer Harbour at Kwinana / Naval Base.
- However, there is a wide range of commercial, environmental and community issues to be dealt with before that can happen.

Recommendation One: Commence triple bottom line strategic and detailed implementation planning on Fremantle Port establishing overflow port facilities in the Outer Harbour, with a view to addressing all barriers to development within five years.

Second Strategy: Increased Rail Use

- The strong community view is that significant future increases in truck numbers and major roadworks associated with Inner Harbour activities are unacceptable.

- Better means need to be found to accommodate future trade growth.
- An increase in rail activity from its present low base has strong community and industry support.

Recommendation Two: *Commercial and infrastructure measures should be put in place to ensure that at least 30 per cent of Inner Harbour containers move by rail in accordance with the recommendations of the Working Group 3 Report.*

Third Strategy: Improved Truck Efficiency

- Increased rail activity alone will not be sufficient to control port-related truck numbers in the medium to longer term.
- Truck activity at Fremantle needs to become more efficient.
- Up to half of the Inner Harbour truck journeys involve empty vehicles.
- Both community and commercial objectives would be achieved if this figure was reduced
- Improved vehicle booking systems, container park operations and other commercial/ operational measures will be required to effect this strategy.

Recommendation Three: *Commercial measures should be introduced to reduce the number of empty Inner Harbour trucks, so that port-related heavy vehicles are contained to current levels in absolute terms and as a proportion of overall traffic.*

Recommendation Three (A): *Investigate the feasibility and opportunity to establish a container park in the Kewdale region, in the first instance, and subsequently in the Kwinana region.*

Fourth Strategy: More Effective Road/Planning Measures

- Notwithstanding improved truck efficiency, trucks will remain the predominant transport mode serving the Inner Harbour.
- Despite this, external impacts on the community can be reduced.
- Rather than having trucks accessing the Inner Harbour in an unsystematic manner on the general road network, an ordered approach would be preferable.
- There are locations on the road network in the Fremantle Region where changes in the nature of truck movements can be monitored.

Recommendation Four: Designate preferred truck routes for accessing the Inner Harbour and an investment programme to ensure impacts associated with their use remain at acceptable levels to the community.

- External impacts of Inner Harbour trucks are exacerbated by the limited periods in which they access the Port.
- There is a serious mismatch of working hours along the freight chain between inland warehouses and the Port.
- The situation has significant consequences, not only for the community, but also for the commerciality of industry and Government investment in road infrastructure.

Recommendation Five: Commercial measures should be introduced which result in a greater spread of working hours, acceptable to the community, for Inner Harbour truck operations.

- Traffic impacts in and around Fremantle cause widespread community concern.
- Inner Harbour trucks are not the main element in the traffic flow because they represent only a small proportion of vehicles on the road, but their impact is relatively greater because of their size and weight.
- However, better traffic management would reduce all traffic impacts.

Recommendation Six: Fremantle, East Fremantle, Cockburn and Melville Councils, together with relevant Government agencies, should prepare traffic

management plans to address anticipated general traffic growth and community impacts.

- Environmental impacts associated with Inner Harbour operations relate to hazardous cargoes, noise and odour.
- While hazardous cargoes can pose environmental risks both within and outside of the Port, the existing risks are within the limits set by the relevant authorities.
- Inner Harbour noise and odour impacts relate primarily to the handling of livestock.

Recommendation Seven: *Fremantle Port, planning agencies, industry and the community should participate in a continuing process to ensure compatibility of adjacent land use and port operations*

Recommendation Eight: *A range of impact-reducing measures continue to be put in place within the Port for the livestock trade.*

Fifth Strategy: Monitoring Inner Harbour Impacts

- The community has a strong view that Inner Harbour impacts should be kept at acceptable levels.
- Regular and comprehensive monitoring of impacts and comparison to present levels is the key.
- Monitoring of Inner Harbour truck movements on a representative port access road is one specific measure.
- A more general approach is to conduct a triple bottom line audit of Inner Harbour impacts across the community, industry and the environment.
- These approaches will show whether the steps to address Inner Harbour impacts are working. If they are not, this will trigger the development of overflow facilities to handle containers in the Outer Harbour.

Recommendation Nine: *Regular traffic surveys to be conducted on a major port access road which carries both port-related and general regional traffic to monitor changes in traffic volume and composition to indicate that port-related heavy vehicles are contained to current levels in absolute terms and as a proportion of overall traffic.*

Recommendation Ten: *Develop criteria for a triple bottom line assessment of Inner Harbour impacts and conduct an initial and then subsequent regular audits.*

Recommendation Eleven: *Inner Harbour trade forecasts to be updated every five years and reviewed annually with implications discussed widely with the community.*

Sixth Strategy: Enhancing Port-Community Relationship

- The community is concerned at becoming alienated from the Inner Harbour.
- Fremantle Ports' communication and community involvement policies do not appear to sufficiently address these concerns.
- The matter is one for port industry as well.

Recommendation Twelve: *Develop a fresh approach to port-community communication and engagement to enhance relationships and make port management and associated industry more aware of community concerns and opportunities to address them.*

Table of Contents

1. Objective	7
2. Basic Understandings	7
3. Overview of Present Situation	7
3.1 Inner Harbour Trade Levels	
3.2 Inner Harbour Port Facilities	
3.3 Inner Harbour Shipping Services	
3.4 Inland Origins and Destinations of Containers	
3.5 Supportive Land Transport Networks	
3.6 Inner Harbour Operational Characteristics	
3.7 Economic Impact of Inner Harbour	
3.8 Investment Levels In Inner Harbour	
3.9 Overflow Options for Inner Harbour Trades	
4. Analysis	11
4.1 Inner Harbour Trade Forecasts	
4.2 Environmental Impacts	
4.2.1 Risk from Hazardous Cargoes	
4.2.2 Noise and Odour	
4.2.3 Planning	
4.3 Traffic Modelling	
4.4 Community Survey	
4.5 Sensitivity Analysis	
5. Conclusions	16
6. Recommended Actions	17

Appendices (copy available on request ph (08) 9216 8723)

1. Working Group 5 Membership & Support Team
2. Inner Harbour Trade
3. Inner Harbour Facilities
4. Inner Harbour Shipping Services
5. Inner Harbour Trade Forecasts
6. Traffic Modelling Report
7. Community Survey Report
8. Working Group 3 Recommendations

1. Objective

The Working Group adopted the following objective at the outset:

'Against a planning horizon of 2025, determine the optimal capacity for the Fremantle Inner Harbour operation taking account of the efficiency needs of port users, environmental impacts and the amenity of the local community.'

This objective acknowledges the Government's triple bottom line approach which calls for the simultaneous achievement of economic, environmental and social goals.

The objective also recognises that the capacity of the Inner Harbour will be as much determined by impacts outside of the Port as requirements within it. Traditionally, capacity has been viewed mainly in terms of berth length, container stacking area, number of portainer cranes and so on. Planning now also has to increasingly take account of community and environmental factors.

It should also be noted that the ensuing discussion of port capacity focuses primarily on containers, which is the predominant activity conducted in the Inner Harbour at present. It is assumed that this situation will continue across the planning period.

2. Basic Understandings

The Working Group was guided by two basic understandings, namely that:

- there is unambiguous support for the working port concept as it applies to the Inner Harbour, not only within the State Government, but also from the Fremantle Council, industry and the community; and
- when Inner Harbour capacity is reached and additional port facilities are needed, these will be to take the overflow trade from Fremantle and not to replace the Inner Harbour

3. Overview of Present Situation

3.1 Inner Harbour Trade Levels

Trade through the Inner Harbour consists of containers, motor vehicles, livestock, scrap metal and other breakbulk cargoes. During 2000-1, this comprised imports of 2.0 million tonnes including 184,108 teus* and exports of 2.9 million tonnes including 170,119 teus. Of the 354,227 containers handled, 28,043 were transhipped** and 97,088 were empty. Details of the major Inner Harbour trades are shown in Appendix 2.

*A teu is a twenty-foot equivalent unit (20-foot container). A forty-foot container represents 2 teus

**Transshipment involves moving containers from one vessel to another. They do not leave the terminal.

3.2 Inner Harbour Port Facilities

The Inner Harbour consists of Victoria Quay on the south eastern side and North Quay on the northwestern side of the Swan River entrance.

Victoria Quay comprises six common user berths for general cargo. North Quay provides common user wharf at berths 1, 2, 11 and 12. North Quay berths 4 -10 provide two dedicated container handling terminals operated by P&O Ports and Patrick the Australian Stevedore. Details of Inner Harbour operational berths are shown in Appendix 3.

3.3 Inner Harbour Shipping Services

Container and roll on–roll off vessels provide regular liner services between Fremantle and various regions of the world. Details of these services are shown in Appendix 4. The vessels serving the other Inner Harbour trades usually provide services on demand under charter or other arrangements.

3.4 Inland Origins and Destinations of Containers

Of the various trades handled by the Inner Harbour, the container trade is the principal generator of heavy truck movements. The livestock, scrap metal and breakbulk trades comprise relative minor activity. In the case of the imported motor vehicle trade, some vehicles are driven and some are trucked from the Inner Harbour.

Most export containers originate in the southeast metropolitan region (Kewdale, Canning Vale, Welshpool, Bibra Lake and Maddington), with the Avon region (Northam) second and the southwest metropolitan region (Henderson, Spearwood and Kwinana) third.

Most import containers are destined for the southeast metropolitan region (Kewdale and Welshpool), with the southwest metropolitan region (Spearwood, Henderson and Kwinana) second and the north metropolitan region (Osborne Park, Malaga and Balcatta) third.

3.5 Supportive Land Transport Networks

The same road networks tend to serve both export and import elements of the Inner Harbour container trades. For the southeast metropolitan region, Canning Highway, High Street, Leach Highway and South Street are important local regional roads. For the southwest metropolitan region, it is Carrington Street/Rockingham Road, Stock Road and North Lake Road. The north metropolitan region, east metropolitan region and Avon use Curtin Avenue, Stirling Highway and the Kwinana/Mitchell Freeway.

The standard gauge rail freight network connects the North Quay with Kwinana, Kewdale, Midland, Northam, Kalgoorlie and onwards to the Eastern States. Narrow gauge rail connects the South West region with Fremantle, but dual gauge is missing at this time between North Fremantle and North Quay.

3.6 Inner Harbour Operational Characteristics

Both container terminals operate 24-hours for 7-days a week for ship to shore handling and two daily shifts for container receipt and delivery.

Most importer and exporter premises operate on weekdays 0800-1600 hours. This mismatch of working hours with receipt and delivery hours at terminals can produce lengthy truck queues at terminal gates. Both terminals have vehicle-booking systems in response. This should reduce truck queues.

About 130 trucking companies serve the two terminals. The large number of operators limits opportunities to co-ordinate the inward and outward movement of containers. As a result, about half of the truck movements through the port are empty.

There is significant movement of empty containers from storage depots in Fremantle to inland destinations for packing. This inefficiency would be overcome if the containers were stored closer to where they are packed.

3.7 Economic Impact of Inner Harbour

In 1998-99, the Federal Bureau of Transport Economics estimated the economic impact of Fremantle Port. Since that time, container throughput has increased 28 per cent and the CPI 9.4 per cent. Taking account of those changes, current impacts would be in the order of \$658 million in economic output, \$410 million in value added, \$213 million in household income, together with some 4000 jobs.

It is not, however, possible to say how Fremantle-specific these impacts are.

3.8 Investment Levels In Inner Harbour

The replacement value of Fremantle Ports' non-transferable assets in the Inner Harbour exceeds \$400 million. Similarly, the terminal operators have about \$150 million of investment in plant and equipment. The leases held by these operators still have 15 years to run. Both operators are planning further significant investment across this period. Other businesses on port land have in excess of \$100 million invested in their activities.

Container parks and other commercial activities dependent on the shipping industry located adjacent to port land have further substantial investment.

About \$750 million is the total investment in the Inner Harbour. This value is probably considerably higher than if the land was used for non-port purposes.

In any case, land values should not be a determinant of the future of the Inner Harbour.

3.9 *Overflow Options for Inner Harbour Trades*

Recent studies have concluded handling containers through the ports of Bunbury and Albany are commercially unattractive propositions at this time.

Several studies since 1989 have identified Naval Base/Kwinana in Cockburn Sound as the most appropriate future port site to handling the overflow of Inner Harbour trades when capacity is reached or limits are placed on further growth.

4. Analysis

4.1 *Inner Harbour Trade Forecasts*

In 1997, forecasts were produced for the Fremantle Inner Harbour Port Development Plan which suggested that most trades, excluding live sheep exports, would increase over the thirty year forecast period. (See Appendix 5.)

4.2 *Environmental Impacts*

The major environmental impacts associated with Inner Harbour operations at Fremantle are those relating to hazardous cargoes, noise and odour. The effects of these impacts are most concentrated in the immediate vicinity of port operations, dispersing rapidly with distance from the harbour. Accordingly, land use planning practices in and around the City are of great relevance.

4.2.1 *Risk from Hazardous Cargoes*

Fremantle Ports monitors risk from hazardous cargoes in the Inner Harbour. Operations comply with the Environmental Protection Authority's risk criteria and with criteria applied specifically to UK ports.

However, recent work has identified a small number of locations around the Inner Harbour where a significant increase in trade could cause criteria to be compromised if improvements to safety systems are not implemented.

Fremantle Ports is aware of its responsibilities in this respect and is committed to continuous improvement in safety systems commensurate with trade growth. Risk criteria will continue to be met.

External to the Port, practicable risk reduction measures will increasingly have to be incorporated into new and modified buildings so that any constraints on port operations arising from urban encroachment do not jeopardise the competitiveness of port operations.

Simple risk reduction measures (e.g. reducing uncontrolled openings to buildings, using stronger window glazing, good emergency planning) are cost effective to implement at the design stage and will contribute to ensuring land uses and port capacity are optimised.

4.2.2 Noise and Odour

Community complaints about noise and odour associated with Inner Harbour activities relate almost exclusively to the livestock trade. The handling of containers is rarely associated with either impact. (Scrap metal had been a problem but has now been addressed.)

The noise impacts of the livestock trade result from the constant operation of ventilation fans aboard vessels while they are in port. This is a greater problem with older vessels and so will reduce over time. Moreover, there are a number of operational procedures such as berth selection and mooring direction which can reduce noise levels.

Odour is a more difficult impact to manage because it is significantly affected by prevailing weather conditions. Notwithstanding, the problem is exacerbated when vessels are loading for protracted periods or when they arrive from other regions already partially loaded. Each practice should be discouraged.

The Inner Harbour livestock trade will not grow in the way that the container trade has the potential to. Accordingly, the implementation of management measures should contain related impacts at acceptable levels for as long as the trade occurs in the Inner Harbour.

4.2.3 Planning

Fremantle Ports has continued to implement the necessary controls to maintain acceptable environmental impacts in respect of Inner Harbour operations. However, there also needs to be supportive land use planning practised in the vicinity of these operations to achieve an acceptable outcome.

The Port Buffer Definition Study has been progressed under the State Industrial Buffer Policy. It now requires endorsement by the WA Planning Commission so that its outcomes can be incorporated into the Town Planning Schemes of relevant local government authorities with supportive policies. Those authorities have indicated in-principle support for this approach.

There are a number of major residential developments currently proposed, or actually progressing, in the immediate vicinity of the Inner Harbour. Because of the number of people potentially attracted to these developments, they pose a particular challenge to land use planning process. However, all of these developments have been factored into the Buffer Definition Study and found to be acceptable at trade levels at least three times the present ones.

4.3 Traffic Modelling

Traffic in the Fremantle and surrounding region was examined using the MRWA traffic model. The purpose of the modelling exercise was to determine how well the road network could accommodate future traffic, comprising both port-related and other traffic. Details of this exercise are included as Appendix 6.

To this end, forecast traffic volumes were assigned to the existing road network and areas where demand resulted in drivers experiencing low levels of service, indicating capacity constraints, were identified.

The model showed that in 2021 and based on the current road network, routes carrying traffic South and East of Fremantle will be experiencing lower levels of service. This will be manifested by increased and less reliable journey times. In particular Tydeman Road, Stirling Highway Bridge, High St and Stock Road will become more congested.

While port-related traffic and other commercial traffic use these routes, even in 2021 they will comprise only a small percentage of the overall traffic volumes as illustrated below:

Route	1996 Port	1996 All	2021 Port	2021 All
	<i>Traffic</i>	<i>Commercial Traffic</i>	<i>Traffic</i>	<i>Commercial Traffic</i>
Tydeman Rd	6%	9%	6%	10%
Stirling Highway Bridge	2%	5%	4%	8%
High St, East of Stirling Highway	1%	5%	5%	11%
Stock Rd, South of Leach highway	1%	4%	2%	7%

This outcome raises the issue of an appropriate strategy to address capacity constraints. Such strategies could range from a “do-minimum” to a “capacity-enhancing” approach.

A “do-minimum” approach would see traffic filtering through the area and the introduction of local traffic management measures as individual problems develop. However, this approach does not recognise that Fremantle is an established area where heritage preservation and residential amenity are major issues and therefore such an approach is unlikely to be acceptable to the community.

A “capacity-enhancing” approach could see upgrading of High St, Leach Highway and Stock Road to provide a high performance and capacity North-South route in the absence of the Fremantle Eastern Bypass. However the future strategy will depend on the outcome of the review of Roe 7 & 8 and alternatives to the Fremantle Eastern Bypass. A firm commitment to this option as a future strategy, with appropriate timelines, may be a more acceptable approach to dealing with future traffic pressure points.

4.4 Community Survey

Survey forms were mailed to 1600 residents of Fremantle and surrounding suburbs, half of them living on or near main roads or the rail line, with the other half being spread through the community. Returns were received from 400 residents, indicating a 25 per cent response rate.

This rate makes the survey results statistically significant.

Responses from those living on or near main roads or the rail line did not differ markedly from those in the rest of those in the survey.

A report on the survey results is included as Appendix 7. Its major findings were that:

- the port should remain as a working port;
- community benefit from the Inner Harbour was identified in terms of port access, visual appeal from port operations, heritage value and contribution to Fremantle life;
- disbenefits were seen in terms of traffic noise and congestion, risk from hazardous cargoes and odour associated with port operations;
- the economic contribution of the port was not particularly valued by the community;
- significant future increases in truck traffic and major roadworks are not acceptable; and
- rail activity should be encouraged as a means of ameliorating traffic impacts associated with the port.

4.5 *Sensitivity Analysis*

The number of truck journeys required to service the Inner Harbour is determined not only by port throughput.

The modal share for rail, the level of “empty running” of trucks, the number of days trucks service the port and the number of containers carried by each truck all impact on the quantum of truck journeys.

A desirable outcome would see the:

- market share for rail increasing from 3percent to 30 percent;
- number of days the port is serviced by trucks rising from 250 to 350 (that is from a 5-day week to a 7-day week); and
- the number of empty trucks servicing the port falling from the current 50 percent to a more acceptable 35 percent.

The achievement of this outcome would see the number of truck journeys to and from the Inner Harbour in 2021 at the same level as today, despite port throughput having more than doubled in the same period.

This is illustrated on the following page:

Scenarios for Port Related Trucks on Roads

		2002	2006	2011	2021
Port throughput (000s of TEUs)		372	452	577	940
Current rail share (3%)					
Modal split (000s of TEUs)	Rail	11	14	17	28
	Road	361	439	560	912
	Total	372	452	577	940
Trucks per day (assuming 50% trucks travelling unloaded)					
	Loaded trucks	962	835	1066	1737
	Unloaded trucks	962	835	1066	1737
	Total trucks	1924	1671	2132	3473
Trucks per day (assuming 35% trucks travelling unloaded)					
	Loaded trucks		835	1066	1737
	Unloaded trucks		450	574	935
	Total trucks		1285	1640	2672

Desirable rail share (30%)					
Modal split (000s of TEUs)	Rail		136	173	282
	Road		316	404	658
	Total		452	577	940
Trucks per day (assuming 50% trucks travelling unloaded)					
	Loaded trucks		603	769	1253
	Unloaded trucks		603	769	1253
	Total trucks		1206	1539	2506
Trucks per day (assuming 35% trucks travelling unloaded)					
	Loaded trucks		603	769	1253
	Unloaded trucks		325	414	675
	Total trucks		927	1184	1928

Assumptions			
Annual growth in port throughput	5%	Current % trucks travelling unloaded	50%
Working days per year for trucks	350	Desirable % trucks travelling empty	35%
TEU/loaded truck	1.5	Current rail share	3%
■ denotes existing situation		Desirable rail share	30%

The assumptions underlying this analysis are at the high end of the sensitivity scale. Other assumptions may suggest a larger increase in truck numbers, although these would still be below trade growth through the Inner Harbour.

5. Conclusions

The Working Group arrived at a number of conclusions including:

- given the necessary imprecision of long term trade forecasts, the capacity of the Inner Harbour should be viewed in terms of trade throughput and not tied to a specific year;
- related, defining limits to port growth is a dynamic issue which should be carried out continuously;
- the impact of trade activity on the surrounding community will be more important in determining Inner Harbour capacity than factors within the Port itself;
- an important external impact relates to road activity, in which context, heavy freight traffic associated with Port operations represents only a small percentage of total traffic flows in and around Fremantle, but with a commensurately greater impact;
- this impact can be ameliorated by greater use of rail through the port and more efficient truck management and the progress in meeting these targets needs to constantly be monitored;
- the community is opposed to growth in port-related trucks and to a further increase in associated external impacts;
- there is a widespread view that overall traffic management in Fremantle and surrounds should be improved although this aspect is not central to this discussion;
- given that port capacity is defined by a complex mix of factors reflecting commercial desirability, environmental manageability and social acceptability, it is difficult at this point of time to be precise about when that may occur;
- neither is it necessary to do so;
- rather, an ongoing triple bottom line monitoring program of port impacts should be put in place as an early warning mechanism in respect of capacity being reached; and
- at the same time, overflow facilities should be available to take the overflow when required.
- various policy steps need to be put into place for the interests of all stakeholders to be protected in the achievement of this objective.

These conclusions generally, and the final one in particular, provided the context for the Working Group's subsequent recommended actions.

ACTIONS : WORKING GROUP 5 : ASSESSMENT LIMITS TO INNER HARBOUR GROWTH						
<i>Reference Number</i>	<i>Proposed Action:</i>	<i>Background/ Influencing Factors</i>	<i>Estimated Cost (\$M)</i>	<i>Source of Funds</i>	<i>Timing</i>	<i>Lead Action Agency</i>
Outer Harbour Development						
1	Commence triple bottom line strategic and detailed implementation planning on Fremantle Port establishing overflow port facilities in the Outer Harbour, with a view to addressing all barriers to development within five years.	Generally accepted that OH is location for port when IH reaches capacity. But need to identify all barriers to this and bring certainty to situation by establishing firm policy across Gov't to address. To be done with reference to sustainability.	None	NA	Priority	DPI, Ports
Increased Rail Use						
2	Commercial & infrastructure measures should be put in place to ensure that at least 30% of IH containers move by rail.	Working Group 3 has specifically dealt with this issue. See Appendix 8 for WG3 recommendations. WG5 supports recommendations.	See WG3	See WG3	See WG3	See WG3
Improved Truck Efficiency						
3	Commercial measures should be introduced to reduce the number of IH trucks (eg vehicle booking systems, location of inland container parks closer to cargo interests, commercial incentives for two-way movements).	Half of IH truck movements are empty. Greater two-way loading will reduce truck numbers.	None	NA	Priority	Sea Freight Council
More Effective Road/Planning Measures						
4	Preferred freight routes designated for IH trucks and appropriate upgrading to minimise impacts.	Impacts from IH trucks will be minimised if set routes observed. Community says no new roads. Need to ensure freight network operates at maximum efficiency with acceptable impacts.	TBC	TBC	Priority	MRWA
5	Spread working hours for IH trucks through appropriate commercial means, new hours to be acceptable to community.	IH trucks peak, especially in the first half of the day. Spreading the peak would reduce impacts. Consistent with better freight logistics through transport chain.	None	NA	Priority	Sea Freight Council
6	Prepare detailed traffic management plans for Fremantle and surrounds.	Traffic management in and around Fremantle causes widespread concern. While IH trucks are not the cause, a better traffic system would reduce impacts.	Minimal	MRWA, Local Govt.	Priority	MRWA, Local Govt

ACTIONS : WORKING GROUP 5 : ASSESSMENT LIMITS TO INNER HARBOUR GROWTH						
<i>Reference Number</i>	<i>Proposed Action:</i>	<i>Background/ Influencing Factors</i>	<i>Estimated Cost (\$M)</i>	<i>Source of Funds</i>	<i>Timing</i>	<i>Lead Action Agency</i>
7	<p>Introduce continuing process to ensure compatibility of adjacent land use & port operations, including:</p> <ul style="list-style-type: none"> Ongoing improvements to safety Management systems within IH To ensure best standards met. 	The community should know that best practice safety standards for IH operations are being met and bettered where possible.	TBC	F'tle Ports	Ongoing	F'tle Ports
	<ul style="list-style-type: none"> new & modified buildings near IH to have safety design features. 	A range of building designs will reduce environmental impact from IH operations.	TBC	Building developer	Ongoing	Local Govt
	<ul style="list-style-type: none"> WAPC to approve IH Buffer and reflect in local Town Planning Schemes. 	Buffer should be able to be statutorily enforced in the planning process.	None	NA	Priority	WAPC Local Govt
	<ul style="list-style-type: none"> ensure new residents aware of IH operations (e.g. memorialson titles). 	New residents in areas such as Fremantle West End may not be aware of IH impacts such as increased rail activity.	None	NA	Priority	Local Govt
8	Improved management of live-stock vessels through berthing vessels to minimise impacts requiring vessels to meet noise standards, discouraging partially loaded/ slow loading vessels	The major source of noise and odour problems.	None	NA	Ongoing	F'tle Ports
Monitoring Inner Harbour Impacts						
9	Regular traffic surveys on major port access road.	Want to check regularly that IH trucks being contained to current levels in absolute terms and as a proportion of overall traffic.	Minimal	MRWA	Priority ongoing	MRWA
10	Regular triple bottom line audit against sustainability criteria.	Commercial, environment and community impacts of IH operations will vary with trade growth. Need regular assessment with involvement of Government, industry and community.	None	NA	Priority ongoing	DPI F'tle Ports

ACTIONS : WORKING GROUP 5 : ASSESSMENT LIMITS TO INNER HARBOUR GROWTH						
<i>Reference Number</i>	<i>Proposed Action:</i>	<i>Background/ Influencing Factors</i>	<i>Estimated Cost (\$M)</i>	<i>Source of Funds</i>	<i>Timing</i>	<i>Lead Action Agency</i>
11	Update IH trade forecasts every five years & review annually with implications discussed with community .	Trade levels and their impacts highly variable. Forecasts need to be more frequent & robust with related impacts discussed with community.	None	NA	Priority ongoing	F'tle Ports
Enhancing Port-Community Relationship						
12	Develop fresh approach to port community communication & engagement through:					
	<ul style="list-style-type: none"> ▪ Fremantle Ports and industry to seek higher community profile 	Little community acknowledgement of current Fremantle Ports PR policy.	None	NA	Priority	F'tle Ports Port industry
	<ul style="list-style-type: none"> ▪ Fremantle Ports and industry to be more aware of community concern. Local Government to assist 	Community concern at current channels for communicating with Port.	None	NA	Priority	F'tle Ports Port industry F'tle Council
	<ul style="list-style-type: none"> ▪ review effectiveness of current port/community dialogue on port impacts. 	As above.	None	NA	Priority	F'tle Council F'tle Port
	<ul style="list-style-type: none"> ▪ greater awareness sought that West End of Vic Quay is a non-trading zone for throughput. 	Community concern at restricted access to IH generally and Victoria Quay in particular.	None	NA	Priority	F'tle Ports