PUBLIC TRANSPORT AUTHORITY

Question: Hon Peter Foss asked -

(1) At what pages and items of the estimates (irrespective of the agency) are the entire costs for this year and out years of capital works for the New MetroRail and all associated or preliminary or necessary works to be found? (Including ancillary things such as bridgeworks, grade separations, level crossings, approach roadworks, temporary works, stations, car parks, compensation, land acquisition)

(2) What is the total amount for this year and all out years?

(3) The amount of $245 745 000 [budget paper 2, vol 3, page 796] is shown as to be expended to 30 June 2004 for New MetroRail infrastructure. What works have been carried for this sum? (Please do not aggregate above $50 000)

(4) What works are intended to be carried out next year for the sum of $328 008 000? [budget paper 2, vol 3, page 796. Please do not aggregate above $50 000].

(5) Does the estimated total cost of the New MetroRail project include the cost of a station at South Perth?

Answer:

(1) The details regarding the New MetroRail Project commence on page 795 and continue on page 796.

(2) The total cost of the New MetroRail Project is $1 518 172 000. The total expenditure up to the end of this financial year is $399 439 000. The total amount for the financial year 2004-05 and all out years is $1 118 732 000. The breakdown of this amount is -

2004-05	2005-06	2006-07	Total 2004-05 to 2006-07
$411 550 000	$400 720 000	$306 462 000	$1 118 732 000

(3) The amount of $245 745 000 to the end of financial year 2003-04 refers to the total expenditure to date on the New MetroRail project for infrastructure. The detail of this expenditure is -

Item	Expenditure to 30-6-2004
Administration	$21 692 000
Rollingstock and Depots	N/A
NSTS Infrastructure	$44 228 000
Perth to Thornlie Infrastructure	$50 931 000
Perth to Mandurah Infrastructure	
Package A	$13 596 000
Package B	$2 253 000
Package C	$4 141 000
Package D	$2 345 000
Package E	$12 212 000
Package F	$44 160 000
Package G	$988 000
Package H	$3 363 000
Other works	$45 836 000
Total	**$245 745 000**

(4) The amount of $328 008 000 refers to the total expenditure on the New MetroRail project for infrastructure in the financial year 2004-05. The detail of this expenditure is -

Item	Expenditure 2004-05
Administration	$6 381 000
Rollingstock and Depots	N/A
NSTS Infrastructure	$14 104 000
Perth to Thornlie Infrastructure	$51 348 000
Perth to Mandurah Infrastructure	
Package A	$53 844 000
Package B	$446 000
Package C	$111 000

Package D	$261 000
Package E	$54 526 000
Package F	$134 012 000
Package G	$3 271 000
Package H	$2 662 000
Other works	$7 042 000
Total	**$328 008 000**

Package F comprises:

- Project & Contract Management - $2 961 000
- Design - $8 118 000
- Tunnels & Structures - $44 377 000
- Stations - $47 112 000
- Other Construction (Rail, Services, Overheads etc) - $31 534 000

(5) No. The total New MetroRail Project budget is $1 518 172 000 and does not include a station at South Perth.

Question: Hon Peter Foss asked -

(1) When will the new Bassendean station upgrade works (a) to be completed; (b) be available for use by the public?

(2) Will there be any early-warning system to advise motorists that existing railway passengers will be crossing the bend in Guildford Road at the Bassendean station?

(3) At what distance will motorists travelling from Guildford in the kerbside lane to able to observe the pedestrian crossing of Guildford Road at Bassendean station?

(4) What is the usual safe stopping distance travelling at (a) 60km/hr (b) 70km/hr and (c) 80 km/hr?

(5) On what date will the pedestrian overpass to the station from Old Perth Road cease to be available to pedestrians?

(6) What design or cost considerations prevented the extension of the new station overpass to the far side of Guildford Road?

(7) Is it intended to provide any compensation to injurious affection of the shopkeepers in Old Perth Road for the disruption and continual delay in the works? Is an amount budgeted for this, and if so, how much?

Answer:

(1) (a) The station will be completed in early July 2004 and
(b) available for public use from 31 May 2004

(2) There will be permanent diamond-shaped signal ahead warning signs in place on all approaches to the traffic signals. In addition, there will be temporary variable message signs in place on Guildford Road approaches with the text “new signals ahead“ and “be prepared to stop” when the signals are first commissioned.

(3) Motorists in the kerbside lane travelling westbound will be able to sight pedestrians 110 metres from the crossing point. Sight distance to the overhead traffic signals (which will show red when pedestrians are crossing) from the same lane is 160 metres.

(4) Safe intersection sight distance as per AustRoads part 5 is -

(a) 105m for 60k/hr,
(b) 130m for 70 km/h
(c) 165m for 80 km/hr.

(5) The old pedestrian overpass will be closed to the public from 31 May 2004.

(6) The enquiry by design process undertaken for this project and endorsed by all stakeholders did not recommend extending the overpass over Guildford Road. In addition, the reopening of Old Perth Road prevented the extension of the new overpass to the far side of Guildford road without land acquisition.

(7) As considerable funding was provided by the PTA to keep the station operating during the entire construction process to ensure patronage was not lost, it is not expected that compensation will be provided.

Question: Hon Peter Foss asked -

(1) Has approval of the Heritage Council of Western Australia been sought or given to the works which affect heritage properties at the William Street station site? Please table all documents associated with any application or approval.

(2) Have any orders been made under section 38 of the Heritage of Western Australia Act 1990 with respect to the properties at William Street? If so, will you identify them?

Answer:

(1) The Heritage Council is not the approving authority for the William Street station platform works. A formal application for approval to commence development (DA) for the construction of the proposed new platforms, including associated demolition of existing structures, was submitted to the Western Australian Planning Commission (WAPC) (via the City of Perth) on 15 September 2003. In accordance with the statutory process, the DA was referred to affected agencies, including the Heritage Council for comment prior to it being placed before the WAPC for determination. A subsequent DA for the demolition of relevant buildings beyond the station, but within the balance of the Station Precinct site, was submitted on 16 January 2004 and was copied to the Heritage Council in accordance with the requirements of the Government Heritage Property Disposal Process Policy. Following negotiation between the Heritage Council and the Public Transport Authority, the issue of the extent of built form to be retained on the site in question was placed before the relevant ministers and was resolved on 4 February 2004. Under the provisions of section 11(3) of the Heritage Act, a decision making authority may determine an application in respect of a registered place provided consultation with the Heritage Council has taken place. Accordingly, the WAPC approved both of the above mentioned applications at its meeting on 11 February 2004 and conveyed the decisions in its letters of 12 and 20 February 2004. Copies of these approvals are now tabled. As a pre-requisite to demolition, detailed archival records of the buildings has been prepared in accordance with the requirements of the Heritage Council.

(2) No.

Question: Hon Barry House asked -

(1) How will the tunnel in William Street be constructed and in particular will it be divided into two tunnels?

(2) If so, what will be the diameter of each tunnel and what will be -

(a) the separation between the nearest exterior walls of the tunnel;

(b) the distance from the furthest exterior walls of the tunnels; and

will this fit within the bounds of William Street?

(3) Will the construction of the tunnel cause any consequential disruption to the surface of William Street?

(4) Will the construction of the tunnel impact on the foundations of buildings along William Street?

(5) Has any estimate been made by you as to what extra costs may be incurred under the tunnelling contract, and if so, what contingency, if any, has been allowed in the estimated total cost of the project for this?

Answer:

(1) The tunnel in William Street (between Esplanade Station and the William Street platforms) will be bored tunnel constructed using an earth pressure balance tunnel boring machine. Twin bored tunnels will be constructed.

(2) Bored tunnel internal diameter is 6.2 metres and the external diameter is 6.7 metres. Based on current bored tunnel alignment design along William Street (subject to finalisation under a design and construct contract):

(a) The separation between the closest exterior walls varies from 3.0 metres along William Street to 8.3 metres entering the William Street platforms;

(b) The separation between the furthest exterior walls varies from 16.4 metres along William Street to 21.7 metres entering the William Street platforms.

The bored tunnels are contained within the William Street road reserve to just north of Hay Street, where the alignment swings to the east on the approach to the William Street platforms, which are located east of William Street.

(3) No – bored tunnelling is an underground operation with no surface impact.

(4) No – the bored tunnel alignment has been designed to avoid all building foundations.

(5) PTA's contractor is responsible for all design and construct risk associated with bored tunnels other than underground man-made obstructions. The contract price includes a provisional sum allowance (based on a provisional quantity and tendered rate) should any such obstruction be encountered. Therefore, minimal if any, extra cost is anticipated over and above the relevant lump sums in the design and construct contract. However, should any additional cost be incurred, the southern suburbs railway project includes an overall contingency allowance of $32.2 million.

Question: Hon Barry House asked -

(1) Has any decision been made as to which bus service will cease at Canning Bridge or be curtailed so that passengers may transfer to rail? If so, which ones will cease or be curtailed? (Please identify by route number) If not, when will the decision be made?

(2) Which lane of the freeway and at what speed is it envisaged that buses will join the Kwinana Freeway and Canning Highway?

(3) Has a consequential delay study been made as to the consequences of the cessation of the express bus lane on the Kwinana Freeway on travel time

(A) into town,

(B) out of town of

(a) buses

(b) other vehicles joining the Freeway at

(i) Canning Bridge

(ii) South Street

(iii) between South Street and the southern end of the freeway

(iv) Canning Highway and James Street

or any of them, or other places.

If so, will you table details of any study? And if not, why have no studies been made as to this aspect of commuters travel into and out of Perth?

Answer:

(1) There will be no change to the bus services that operate over the Canning Bridge or those that join the Kwinana Freeway at Canning Bridge as a result of the southern suburbs railway. Existing bus stops on the upper level of Canning Bridge station will be retained to enable passengers to transfer between the bus and train services, this will be particularly important for passengers who wish to travel to destinations south of Canning Bridge.

Very early in the planning for the southern suburbs railway, it was identified that the existing bus services which currently join the Kwinana Freeway at Canning Bridge would continue to operate to the city. While passengers can choose to transfer to the train (eg for southbound trains or destinations served by train stations north of the city) passengers going to the city are likely to remain on their bus. These Canning Highway bus routes that will continue to operate to the city are routes 111, 158, 160, 881 and 940.

(2) Buses from Canning Highway currently join the Kwinana Freeway bus lane by way of an access bridge and ramp. The buses on Canning Highway travel at 60kph and 40kph on the access ramp, accelerating at the bottom to 100kph to join the bus lane. In the future, the existing bridge will be relocated some five metres westwards to permit buses from Canning Highway to enter the inner-most lane of the freeway which will be a shared traffic lane. The access speed at Canning Highway will remain at 60kph and the ramp speed 40kph and the speed at the freeway increases to 100kph and the buses will merge with general traffic in this lane at the posted speed for the freeway.

(3) The effects of the construction of the works on the freeway have been assessed and appropriate traffic management plans are to be put into place over the next two and a half years of construction.

The Kwinana Freeway bus services between Murdoch and the city will be affected in the latter stages of construction between June and December 2006 at which time the bus lane will cease to operate. A high occupancy vehicle (HOV) transit lane will be in operation in the last period of construction late in 2006 between Leach Highway and the Narrows Bridge. This transit lane will be a 24-hour peak direction

priority lane for buses, taxis and private vehicles carrying two or more people. The transit lane will provide bus priority whilst maintaining an acceptable level of service for the general motoring public during the final stages of construction of the railway in the median of the freeway.

No study as described has been carried out. The knowledge of the existing and future traffic conditions on the freeway is known to Main Roads WA and the traffic disruption studies and the traffic management plans that have been developed have been done so with the knowledge and experience of the existing conditions and have factored in the future conditions. Even though during construction there will be some additional travel time for freeway users due to speed reductions in some areas, it is anticipated that road users will seek alternative routes or travel at different times if they wish to avoid some disruption, especially during peak times.

At the end of construction, when the railway is in operation, the freeway will be returned to a state where normal travel patterns can be established for each section of the freeway. In the most heavily trafficked section between Canning Bridge and the city, bus users who join the freeway at Canning Bridge will be only marginally affected in overall travel times compared to today; as will also be the case for those in cars. Those who transfer from car to train for their journey will enjoy significant travel benefits in reduced travel times. The time benefits increase for the longer journeys for people who join the railway south of Glen Iris.

Question: Hon Barry House asked -

(1) What action is planned with respect to the declared rare and priority flora found at the proposed South Street station? [Caledenia huegelii]

(2) How many other station sites have been surveyed? Have any other protected species been found? Will you table the results of all surveys?

Answer:

(1) A spring survey for declared rare and priority flora was conducted in October 2003 and is documented in 'Declared Rare and Priority Flora - Proposed South Street Railway Station' (Ecoscape (Australia) Pty Ltd, October 2003). Twenty two *Caladenia huegelii* plants were identified. Following consultation with relevant stakeholders, including local residents, the south eastern quadrant of the South Street interchange was redesigned to allow preservation of 20 plants in 0.8 hectares of habitat. The two plants which are unable to be left in their current location will be translocated into the area of vegetation to be preserved, in consultation with the Department of Conservation and Land Management (CALM). An agreed position has been reached between New MetroRail and CALM on this issue. The redesigned station has been referred to the Environmental Protection Authority (EPA) to determine whether the proposal requires formal environmental assessment under the Environmental Protection Act, 1986. New MetroRail is awaiting this determination. The matter has also been referred to the Commonwealth Department of the Environment and Heritage under the Environment Protection and Biodiversity Conservation Act, 1999.

(2) All station sites have been surveyed for declared rare and priority flora species and protected fauna species. No protected species have been found at any of the station sites, other than the *Caladenia huegelii* found at South Street. The results of these surveys are documented in the following reports, which can made available on request:

- 'SW Metropolitan Rail Alignment MRS Amendments Botanical Survey' (Hart, Simpson and Associates Pty Ltd, August 2001)
- 'South West Metropolitan Railway Fauna Management Plan' (Ecoscape (Australia) Pty Ltd, December 2001)
- 'South West Metropolitan Railway (Anketell Tunnel to Mandurah) Supplementary Report on Fauna' (Unpublished report by MJ & AR Bamford Consulting Ecologists for Ecoscape (Australia) Pty Ltd, December 2001)
- 'Declared Rare and Priority Flora – Proposed South Street Railway Station' (Ecoscape (Australia) Pty Ltd, October 2003)
- 'Declared Rare and Priority Flora Survey – Selected Stations and Alignments' (Ecoscape (Australia) Pty Ltd, November 2003)
- 'Further Works to Determine Fauna Status and Recommendations and Mitigation Proposals to Limit Impacts on Fauna' (Unpublished report prepared by MJ & AR Bamford Consulting Ecologists for Ecoscape (Australia) Pty Ltd, November 2003)

- 'Further Works to Determine Potential of Significant Habitat Trees for Bird Roosts or Nesting Sites and Masked Owl Status Within the Area of the Proposed Perth – Mandurah Rail Link Alignment' (Unpublished report prepared by MJ & AR Bamford Consulting Ecologists for Bowman Bishaw Gorham, January 2004)

Question: Hon Barry House asked -

(1) What distance of rail between the Narrows Bridge and the William Street station will be

(a) tunnel

(b) cut and cover

(c) cut but not covered?

(2) What considerations have determined that the length of excavation that is not covered should not be covered?

(3) How many truck movements will be required to remove the material from the demolished William Street Bridge?

(4) How will this material be recycled?

Answer:

(1) Lengths of tunnel structure between the Narrows Bridge and the William Street platforms are as follows -

(a) Bored tunnel - 480 metres;

(b) Cut-and-cover tunnel - 260 metres;

(c) Open cut-and-cover tunnel - 140 metres.

(2) A scope change was required to deliver the significant urban planning and development benefits from the removal of the William Street Traffic Bridge. The scope change that was approved was that a 135 metres long section of the tunnel structure on the foreshore be constructed as an open concrete box. The deletion of the concrete roof itself results in a saving, but of more significance, tunnel ventilation requirements south of Esplanade station can be significantly reduced.

(3) PTA's contractor has advised that an estimated 15 truckloads per day will be required.

(4) The demolition material will be transported to either an EPA approved waste disposal facility where it will be recycled or to an approved landfill site.

Question: Hon Robyn McSweeney asked -

(1) Have any further risk analyses been carried beyond those which were tabled at last year's estimates? If so, with respect to what risks were they carried out and will you table them?

(2) Have there been any further reports on the time that will be taken to travel between Perth and Mandurah and Perth? If so, what do they show and please table the supporting documents?

(3) Has there been any further modelling of the passenger numbers travelling on the New MetroRail? If so, what do they show and will you table them. For any significant variation from earlier studies please identify the relevant variations to the factors, variables or model?

Answer:

(1) Yes. The new risk studies are as listed in the following table I will table a copy of these reports.

Doc No.	*Title*	*Author*	*Revision*	*Date*
PUR00961	**Risk Treatment Plan Review**	Risk Cover	Final	11/2/2003
PUR01299	**Construction of the Kenwick Rail Tunnel-Stage 2. Project** **Workplace Process and Risk Management Plan**	John Holland	2	14/5/2003
PUR01397	**BP White Oil Pipeline Relocation** **Risk Assessment**	Worley	Final	25/9/2003

PUR01557	**Package 4d Infrastructure Civil Signals Comms Overhead and Beckenham Substation – Risk Review**	Risk Cover	Final	July 2003
PUR01558	**Package 3 Kenwick Tunnel Shell, Freight Track Relocation Program and Project Interfaces Risk Review**	Risk Cover	Final	July 2003
PUR01559	**Package 2 Thornlie Station, Spencer Road and Canning River Bridge Risk Review**	Risk Cover	Final	July 2003
PUR01603	**Brake Discs Risk Review**	Risk Cover	Final	July 2003
PUR01604	**Platform Extensions Northern Suburbs Transit System Risk Review**	Risk Cover	Final	Feb 2003
PUR01606	**Perth to Thornlie Package 3-Spencer Road Crossing Risk Cover**	Risk Cover	Final	June 2003
PUR01715	**Kenwick Tunnel Ventilation Risk Workshop Briefing Paper**	Connell Wagner	1	13/8/2003
PUR01716	**Risk Review – Greenwood Station**	Risk Cover	Final	5,14/8/2003
PUR01717	**Risk Review-Clarkson –Nowergup Extension**	Risk Cover	Final	6/8/2003
PUR01718	**Risk Review-Kenwick Tunnel Operations under Emergency Conditions**	Risk Cover	Final	Aug 2003
PUR01789	**Risk Review – Perth Station Alterations for February 2005**	Risk Cover	Final	8/10/2003
PUR01791	**Risk Review-Package H Sub-Package H2 – Relocation of Perth TSC**	Risk Cover	Final	14/9/2003
PUR01793	**Kenwick Rail Tunnel Train Fire Risk Assessment Report**	Worley	Final	16/10/2003
PUR01795	**Victoria Park to Carlisle Track Deviation and Construction of Miller-Roberts and Howick St Bridge**	Works Infrastructure	Final	21/10/2003
PUR01802	**Risk Review – Tri-colour Signalling**	Risk Cover	Final	3/9/2003
PUR01824	**Clarkson to Nowergup Single Track Risk Assessment**	Connell Wagner	1	22/10/2003
PUR01952	**Risk Review – Package H Sub-Package H6 Nowergup Depot Works**	Risk Cover	Final	22/1/2004
PUR02102	**Risk Review – Operations of Railcars on Non-commissioned Railway**	Risk Cover	Final	4/3/2003
PUR02137	**Risk Review Report Beckenham Substation Western Power Circuit Breaker**	New MetroRail	Final	20/4/2004
-	**New MetroRail City Project Contract 27/03**	New MetroRail	Final	May 2004

(2) No.

(3) No.

Question: Hon Norman Moore asked -

(1) What are budgeted per annum costs of operating the Perth to Mandurah -

(a) in the first year of operation;

(b) each out year for the next 10 years?

(2) From what information are these figures derived?

(3) What are the budgeted fare-box per annum projections -

(a) in the first year of operation;

(b) each out year for the next 10 years?

(4) From what information are these figures derived?

(5) What is the budgeted forecast fare-box subsidy per annum -

(a) in the first year;

(b) in each out year for the next 10 years?

(6) From what information are these figures derived?

Answer:

(1) (a) In 2007-08 (including Clarkson and Thornlie extensions) - $48.3 million.

(b) Budgets have not been prepared beyond 2007-08.

(2) The estimate of operating costs is derived from extrapolations of existing known costs to operate the urban passenger railway applied to the modelled patronage and rail operation in respect to the required number of railcars, train services and annual train service kilometres.

(3) (a) In 2007-08 (including Clarkson and Thornlie extensions) - $24.7 million.

(b) Budgets have not been prepared beyond 2007-08.

(4) The estimate of annual revenue is derived from the application of existing fare structures in respect to the anticipated patronage and the modelled travel patterns.

(5) (a) In 2007-08 - $23.6 million.

(b) Budgets have not been prepared beyond 2007-08.

Not only will the superior fast direct railway deliver significant public transport and urban planning benefits compared to the previous Government's Kenwick deviation it will deliver significant ongoing savings from reduced operational cost.

These significant ongoing operational cost savings are largely made from the number of railcars required.

As a result of the significant travel time savings we have been able to deliver a better level of service with less railcars. We only need 93 railcars not 117 that were required for the Kenwick deviation - resulting in savings on train crews, security, maintenance and electricity costs.

As the fast direct route will carry more than 10 000 passengers more than the Kenwick deviation there is a significant increase in revenue.

The operating cost estimate for the Kenwick deviation, less revenue from the fare box, is approximately $40 million.

The operating cost estimate for the fast direct railway, less revenue from the fare box, is approximately $24 million.

Therefore, it would have cost approximately $16 million per year more to operate the Kenwick deviation.

(6) The annual subsidy is the shortfall of revenue compared to total operating costs. The information from which these figures are derived is explained in (2) and (4) above.

Supplementary Information No 43.

Question: Hon Simon O'Brien asked -

(1) Have any issues or problems with the foundations of the new Narrows Bridge come to light?

(2) If so what are they?

(3) What independent advice has the Government received to be confident about the structural integrity of the bridge to carry rail?

(4) Will the Government table that advice?

Answer:

(1) No.

(2) Not applicable.

(3) Engineering consultants engaged by MRWA reviewed the design of the new Narrows Bridge, considered the additional loadings that would be applied on the new bridge and concluded that with appropriate strengthening the structure of the new Narrows Bridge was capable of accepting the loadings that would be applied as a result of locating one track on the eastern most part of the new Bridge.

(4) The report will be tabled.

Supplementary Information No 44.

Question: Hon Simon O'Brien asked -

(1) What advice did the Government of the day receive on the safe width of the gap needed to accommodate the railway when the freeway median reserve was widened south of Glen Iris?

(2) What advice has the Government now received on what is the safe gap width?

(3) When did the Government receive advice that those requirements had changed on that matter?

Answer:

(1)&(3) The availability of space and barrier types are governing factors in determining the width required to accommodate the railway. The required reserve width for a railway is established by considering the following factors; namely:

- the number of tracks;
- the lateral spacing between tracks;
- the type of track structure;
- the type and location of the overhead electric traction system, (eg, is there to be a central mast to carry the overhead traction power supply, or a masts on either side of the tracks) signalling and communications;
- Extra width requirements for stations; and
- Frequency of access for maintenance (which is minimal for a high standard of track).

In order to provide a complete understanding of the spatial requirements for the Southern Suburbs Railway in the median of the Kwinana Freeway, three specific sections of the Freeway need to be considered, these being:

(1) Glen Iris to Thomas Road;

(2) Glen Iris to Mt Henry; and

(3) Mt Henry to the Narrows Bridge.

(1) Widening of the Kwinana Freeway from Glen Iris to Thomas Road

The advice to the previous Coalition Government in 1999 was that it was necessary to widen the Freeway reserve for the South West Metropolitan Railway (SWMR) between Glen Iris and Anketell. This was based on the then existing Westrail standards and the design criteria for the Northern Suburbs Railway which were established in 1989. This advice was given by the Senior Management of the SWMR project.

The median was widened to provide sufficient width for the stations at South Lakes and Thomsons Lake and three future stations at Gibbs Road (Success), Rowley Road (Mandogalup) and Anketell Road (Anketell).

Between Glen Iris and Thomas Road where there was road reserve available and no existing bridges to prevent the freeway being shifted, the standards as generally applied to the Northern Suburbs Railway have been used. This is a nominal railway width of 18.5 metres and with flexible wire rope barriers to prevent road vehicle intrusion.

(2) The Railway Reserve Widths within the Kwinana Freeway from Glen Iris North to Mt Henry

Between Glen Iris and Mt Henry Bridge where shifting of the freeway would be difficult due to existing bridges and road work, a reduced space of nominal 16.2 metres has been adopted to prevent vehicle intrusion and sold concrete barriers are required.

(3) The Railway Reserve widths within the Kwinana Freeway from Mt Henry to the Narrows

From Mt Henry Bridge to the Narrows Bridge where there is an existing busway with solid concrete barriers, the railway can be built within the existing 12 metre space.

The ability to put the railway into the middle of the Freeway within a reduced width of 12 metres depended on two important engineering considerations and these are:

- A reduction in the distance between tracks;
- A barrier that did not deflect.

The distance between adjoining tracks is determined by the need for trains to safely pass wayside structures and trains coming in the opposite direction. The calculations to achieve a safe minimum distance were carried out in accordance with internationally recognised standard railway engineering practice. For example, in calculating the safe gap between fast moving trains and adjacent structures on the right of way, standards such as the British Department of Transport Railway Construction and Operation Requirements – Structural and Electrical Clearances, were used as references.

The outcomes achieved were found to be conservative in comparison to the operating practises along the existing urban rail system in Perth.

Through this process it was found that given two adjoining tracks with a central mast between them to carry the overhead electric traction system, the distance between tracks could be reduced from the very conservative 5.6 metres on the Northern Suburbs Railway, to 4.2 metres. It was found that the controlling factors in achieving this outcome were not necessarily safety, but rather issues such as the ability to wire the overhead traction power system within tolerable maintenance expectations.

The performance of the railway operating within the reduced median was the subject of a quantitative risk assessment and cost benefit analysis by an internationally recognised specialist in this field, Det Norske Veritas (DNV). DNV examined the risks to both railway and road users and found that with a concrete barrier installed between the road carriageways and the railway in areas of minimum median width, the risks to death and injury were within the range of being As Low As Reasonably Practicable (ALARP). The achievement of the ALARP rating is a standard outcome sought internationally in risk assessment and sound engineering design.

Supplementary Information No 45.

Question: Hon Simon O'Brien asked for a list of bus services that currently join the freeway south of Canning Bridge and use dedicated bus lanes.

Answer:

The bus services that join the Freeway south of Canning Bridge are:

Route	Origin
183	Atwell/Success Park and Ride
184	Murdoch Park and Ride
185	Murdoch University/Murdoch Park and Ride
193	Hammond Park/Success Park and Ride
718	Secret Harbour/Port Kennedy
740	Hamilton Hill/Coolbellup/Kardinya
741	Samson
778	Lynwood/Riverton/Willetton
779	Parkwood/Willetton
781	Canning Vale
786	Leeming
791	Yangebup/South Lake
794	Bibra Lake/Bateman/Brentwood
866	Rockingham/Kwinana
867	Mandurah
877	Ferndale/Riverton/Rossmoyne
878	Ferndale/Willetton/Rossmoyne
879	Lynwood/Willetton/Bullcreek
880	Thornlie/Huntingdale/Canning Vale
883	Langford/Thornlie/Canning Vale
884	Langford/Thornlie/Canning Vale
885	Thornlie/Southern River/Canning Vale

Supplementary Information No 46.

Question: Hon Jim Scott asked -

(1) How many of the 848 buses in the Bus Purchase and Supply Agreement have currently been provided?

(2) How many of those buses are gas powered?

(3) Will the rest of the buses acquired under the contract use compressed natural gas?

Answer:

(1) 397 of the 848 buses to be supplied under the Bus Purchase and Supply Agreement have been delivered to date.

(2) Of the 397 buses delivered, 48 are powered by natural gas. It should be noted that Transperth had an existing fleet of 51 gas buses, giving a total of 99 gas buses in the fleet.

(3) The agreement has been varied so that the remaining 451 buses to be delivered will be powered by natural gas.

Supplementary Information No 47.

Question: Hon Jim Scott asked about the possible expansion of rail services south of Fremantle station, particularly for some of the new developments that are being done in that area. He understands that one of those developments, the South Beach development, will possibly take up part of the rail reserve. Mr Scott asked that, given there will be a large increase in freight traffic in that area, does the Department have a position on whether this area of rail reserve should be taken up by urban development at a time when there may be a need to extend the passenger services plus deal with that increase in freight traffic?

Answer:

There are no immediate plans to extend the passenger rail service south of Fremantle.

In 2001 Western Australian Planning Commission resolved to proceed with Amendment No 1008/33 to the Metropolitan Region Scheme. (This covers an area of land south of Ocean Road and north of Rollinson Road in South Fremantle/Hamilton Hill and is a component of the overall 'South Beach Development'.) Included in this Amendment is 3.6 ha of railway reserve, which is non-rail corridor land to the side of the rail corridor and was considered surplus to Westrail's requirements. Through the Amendment, this land was transferred to Urban zoning. The rail corridor remains in the Railways reservation and accordingly is preserved through this area.

The South Beach Development is likely to have less effect on the rail corridor (and vice versa) than residential development further north, closer to Fremantle. This is because the Environmental Protection Authority (EPA) has required, through Environmental Conditions set by the Minister for the Environment and included in the Metropolitan Region Scheme, that dwellings within particular distances of the rail line must incorporate sufficient noise attenuation features so that internal noise in those dwellings meets the EPA's criteria. The EPA took into account the increases in freight traffic and liaised with Fremantle Ports on the matter before giving advice to the Western Australian Planning Commission. The Amendment was subject to a three-month public submission period and government agencies were also consulted. The Amendment went through Cabinet and Parliament.

The section of the existing freight railway line between Kwinana and Fremantle that runs east west along the northern boundary of the proposed Port Catherine Project will not be impinged on by this development.

Overall the existing freight railway corridor between Kwinana and Fremantle will be unaffected by these developments.

Any future passenger rail services are more likely to be light rather than heavy rail and travel on roads.

Supplementary Information No 48.

Question: Hon Norman Moore asked -

How much does it cost taxpayers per annum to subsidise the operation of the Transwa country passenger road coaches?

Answer:

The community service obligation attributable to Transwa road coaches was $5.6 million in 2001/02 and $7.4 million 2002/03.

The subsidy in 2002/03 comprised $5.9 million for operational costs and a further $1.5 million for interest and depreciation.

The annual subsidy for 2003/04 financial year is not yet available; the figure will be available when audited financial statements are completed (late August 2004). The best available estimate is that it will be about $8.2 million.

The total budget CSO for 2003/04 for all Transwa services is $26.8M (increased from $21.4 million in 2002/03).