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# SUBMISSION TO

# THE INQUIRY INTO INFRASTRUCTURE & THE DEVELOPMENT OF AUSTRALIA'S REGIONAL AREAS

**PARLIAMENT HOUSE**
**CANBERRA**

**PRINCES FREEWAY**
**ACTION COMMITTEE**

***May 1999***

# INTRODUCTION

The Princes Freeway Action Committee submits the following information in support of its request for upgrade works to, and reclassification to the status of Road of National Importance for the Princes Freeway, between the Western Ring Road and Geelong.

This submission outlines the reasons why such upgrade and reclassification will benefit regional development in the western regions of Victoria and Melbourne, the Geelong region and the south-east region of Australia.

## THE PRINCES FREEWAY ACTION COMMITTEE

The Princes Freeway Action Committee was formed in 1997 to facilitate improvements in the efficiency, capacity and safety of traffic movement on the Princes Freeway and comprises representatives from the Cities of Wyndham, Hobsons Bay, Greater Geelong and Melbourne, the RACV, Fox Holdings Pty Ltd, the Victorian Road Transport Association, Ford Australia, Transwest Haulage Pty Ltd, Avalon Airport Australia Pty Ltd, the Australian Industry Group, the Transport Workers' Union of Australia and community and road safety representatives. Spokespersons for the Committee are Lindsay Fox, Founder of Fox Holdings Pty Ltd and Barry Harvey, Managing Director of Austco Enterprises Pty Ltd.

## REGIONAL DEVELOPMENT

The Committee believes that the case for upgrade and reclassification of the Princes Freeway (Geelong Road) to the status of Road of National Importance is extremely strong, given the economic importance of the route to the south-east region of Australia, along with its congestion and appalling safety record.

While the economic benefit for Australia is outlined in a later section of this submission, the Committee believes it may be useful to provide two examples of the reliance on the Princes Freeway by Small to Medium sized businesses in the Melbourne/Geelong Region of Victoria.

Two member organisations of the Princes Freeway Action Committee (PFAC), Avalon Airport and Geelong Cement have outlined the importance of the Princes Freeway to their business activities. Unfortunately, Geelong Cement has since announced its closure. This prompts a question regarding how much influence current conditions experienced on the Princes Freeway contributed to the closure.

# IMPACTS ON SMALL - MEDIUM SIZE BUSINESS CASE STUDIES

## *AVALON AIRPORT AUSTRALIA PTY LTD*

### Background

Avalon Airport Australia Pty Ltd is a 100% owned subsidiary of the Linfox Group of Companies. The airport is capable of handling the movement of international freighters and is situated on 1,753 hectares, fifty-five kilometres from Melbourne on the Princes Freeway.

Linfox Transport (Aust) Pty Ltd's rationale for the purchase of Avalon Airport include plans for the development of:

- a logistics hub for the transfer of domestic and international freight;
- an aerospace centre, encapsulating aircraft maintenance, pilot training and international exhibitions; and
- property development including the establishment of freight terminals, warehousing, technology and manufacturing activity.

To commence these activities, Linfox Transport has invested approximately $3 million in freight handling facilities, during the period February 1997 - February 1998. It officially commenced freight handling with the movement of freight requirements associated with the Australian Formula One Grand Prix during March 1998.

### Princes Freeway Upgrade - The Avalon Perspective

An efficient, safe and cost effective road network, providing high quality and reliable road freight transport services to Avalon will be required to develop the facility into a leading intermodal freight transport and aerospace hub.

In its present condition, the inefficient and dangerous Princes Freeway detracts from Avalon's ability to implement its strategy, as the Freeway multiplies the risks associated with road transport, therefore increasing costs to exporters and the aerospace and transport industries.

In particular, as Avalon pursues its endeavours to capitalise on opportunities available for the export of perishable produce, particularly to Asian markets, the present road infrastructure will *restrict its ability to effectively transport time sensitive high value produce* to the international market.

As an example, the Linfox Group estimates the following freighter B747 aircraft movements, will be undertaken via Avalon Airport over the next seven years:

| **Estimated Aircraft Movements** | ***Years 1-3*** | ***Years 3-5*** | ***Years 5-7*** |
|---|---|---|---|
| Per week | 2 | 4 | 7 |
| Per annum (50 weeks) | 100 | 200 | 350 |

Each aircraft holds a carrying capacity of 100,000 kilograms of freight, with each movement requiring the transfer of this produce in approximately 9 semi-trailer vehicles. Combining the movement of one inbound aircraft, approximately 18 semi-trailer vehicle movements will be incurred (ie., 9 inbound to/from Avalon). Therefore the following vehicle movements and freight levels are anticipated:

| **Estimated Vehicle Movements** | ***Years 1-3*** | ***Years 3-5*** | ***Years 5-7*** |
|---|---|---|---|
| Per week | 36 | 72 | 126 |
| Per annum | 1,800 | 3,600 | 6,300 |

| **Estimated Freight Movement (kilograms)** | ***Years 1-3*** | ***Years 3-5*** | ***Years 5-7*** |
|---|---|---|---|
| Per week | 400,000 | 800,000 | 1,400,000 |
| Per annum (kilograms) | 20,000,000 | 40,000,000 | 70,000,000 |

**Just in Time Transfer** - ***The Requirements for an Efficient Road Transport System***

Each B747 aircraft will operate from Avalon on a world standard "turnaround time" (ie. landing - unloading - reloading - refuelling - departing) of approximately 2.5 hours. The export freight arrives at the airport by vehicle, up to two hours before the arrival of the aircraft. Any delays in the arrival of freight, due to road transport or other problems, will generally result in two penalties:

- The departure of the aircraft without the freight on board, leading to supplier breaches between exporters and customers, and a decline in freight revenues for the airline. Importantly, continued lack of delivery performance would impact upon Australia's freight delivery reputation, particularly via Avalon, and reduce demand for the services, reducing Avalon's commercial viability; or

- The aircraft will delay departure, therefore missing its airport destination's landing slot into, for example, Hong Kong, Singapore, Kuala Lumpur or Tokyo. Late arrivals incur significant additional costs which are ultimately borne by Australian exporters. In addition, late arrivals incur a flow-on impact, and the international airline flying schedule is interrupted.

**Avalon Airport - *Further Economic Development***

The Linfox Group of Companies considers it likely that development of 10,000 - 20,000 square metre warehouse and distribution centres will be undertaken at Avalon Airport over the next seven years. These include the following estimates:

| | ***Years 1-3*** | ***Years 3-5*** | ***Years 5-7*** |
|---|---|---|---|
| Development Warehouse & Distribution Centres | 1 | 2 | 3 |

Each warehouse may have potential to generate up to 100 truck movements per day, rapidly increasingly vehicular movements on the Freeways. These developments will also be contributing factors which will require the further upgrade of road infrastructure between Melbourne and Geelong.

**Summary**

Linfox Transport projects that Avalon Airport may generate up to an additional 5,000 trucking movements on the Freeways over the next seven years, from its freight handling activities. Other commercial impacts on the proposed development of industrial precincts, warehousing and aerospace at Avalon Airport, will also produce significant road transport movements.

In summary, Linfox Transport and Avalon Airport Australia consider the upgrade of the Princes Freeway to be of critical importance to the overall success of the development of Avalon as a leading Australian intermodal freight and aerospace hub. The re-establishment of the road as a safe, efficient and reliable thoroughfare will provide the infrastructure to support the *Just in Time* concept for the transfer of freight, in particular, the movement of time sensitive produce to, and from, Avalon Airport.

## *GEELONG CEMENT*

Geelong Cement is a member of the Australian Industry Group ("AIG") and one of the many manufacturing members of that group based in Geelong.

Prior to its announced closure, Geelong Cement was typical of most manufacturing industry in the Geelong area - while Geelong is a great place in which to manufacture, the majority of the market is in the Melbourne metropolitan region.

It is estimated that of the average of 60,000 vehicles per day on the Princes Freeway, about 6,600 are freight trucks. Certainly in the last twelve months Geelong Cement contributed to this with 100 vehicle movements carrying 2,650 tonnes of cement and raw materials per day.

The Australian cement industry is under intense pressure from the South East Asian meltdown. There is now an excess in cement making capacity in the South East Asian region of over 20 million tonnes per annum compared with the total Australian cement market of 7 million tonnes per annum.

This has had the effect of reducing the cement price in the South East Asian region by a factor of about three, making continuation of the previously established export of Australian product to the region impossible.

This increased price pressures within Australian and emphasised the need for Geelong Cement to continue to reduce its cost of product delivered to the Melbourne market.

Geelong Cement had continuously improved its operation for some time. It had reduced its labour force from over 500 to 115 over the last 6 years. It had reduced its major energy costs by replacing 10% of its natural gas with waste solvents and planned to increase that to 40% within two years. In all areas of Geelong Cement's operations it had to economise to remain viable.

As mentioned, prior to the announced closure, Geelong Cement's story was typical of Geelong manufacturers. Its reliance on road transport along the Princes Freeway made it imperative that the system was safe, efficient and cost effective. Geelong Cement's experience showed that the condition of the Freeway was both inefficient and dangerous. This increased the risks and costs associated with transport of goods in a climate where cost reduction was vital.

Much work is being carried out to promote Geelong as an attractive place in which to live and do business. Inevitably this will increase traffic flows along the Freeway. The present condition of the road is inhibiting development and will continue to do so.

To enable Geelong manufacturers to remain competitive, the cost of freight to, and from, Melbourne must be contained and be competitive. Congestion on, and safety of, the Freeway are of critical importance in maintaining freight costs, thus contributing to the further development of the Geelong region's manufacturing base.

To stay in business industries must operate at world's best practice standards and to do that, world's best practice infrastructure is needed. From the viewpoint of Geelong Cement and the Australian Industry Group, upgrading of the Princes Freeway is a priority issue now.

Safe, efficient and reliable Freeways are the major infrastructure requirements of the Geelong region.

# GENERAL ECONOMIC IMPACTS OF THE PRINCES FREEWAY

## *1. OVERVIEW*

The Princes Freeway is the only road link between Victoria's two largest cities, Melbourne and Geelong. The Freeway was never designed for the huge demands now placed upon it by private, commercial and freight traffic.

Today, the Princes Freeway constitutes arguably the most economically significant road link in Australia. It is the major link between some of Australia's largest seaports, rail terminals and airports, as well as a vital conduit for exports, especially in the primary and manufacturing industries, from Victoria, South Australia and Tasmania.

## *2. THE VITAL LINK*

Geelong and Melbourne are two of the major Australian centres of industry and form a region from which 38% of Australia's exports are sent.

Australia's national economy depends upon its transport system and the Princes Freeway is arguably among its most crucial elements.

The Princes Freeway is the lifeblood of Australia's major manufacturing region, especially for engineering, petro-chemicals and primary products processing industries.

The Freeway carries huge numbers of vehicles per day, peaking at 90,000 on the Western Ring Road, with 11% of the traffic engaged in freight and 26% engaged in business or light commercial activities.

The Freeway is part of the transport hub of south east Australia, serving South Australia, regional Victoria, Tasmania and even New Zealand. The Freeway is a critical link between Melbourne's west and Geelong, which between them host Australia's greatest concentration of transport infrastructure and industry.

Melbourne's West and Geelong play vital roles in Australia's export performance, especially in wool, wheat, petroleum products, petro-chemicals, rice, machinery, canned foods, fertiliser, automotive parts and vehicles.

With the development of Avalon Airport the region is expected to grow as Australia's premier export hub, with the potential to provide state-of-the-art air and sea export services taking south-east Australia to the world.

A combination of deteriorating surface conditions, chronic traffic build-up and escalating road transport industry demand has seen the Princes Freeway become one of Australia's most notorious and deadly roads.

## *3. THE BENEFITS OF AN UPGRADE*

Upgrading the Freeway will improve traffic safety and reduce vehicle emissions. It will also stimulate industrial growth in Melbourne's west and south-west - a region earmarked by successive State and Federal governments as a strategic region for manufacturing investment, employment and export.

It is vital that Australian industry is as cost-effective and competitive as possible to compete on a world wide basis.

Quicker, more efficient and safer transport between Melbourne and Geelong will boost the Geelong Region's traditional strengths in manufacturing and engineering, and help the region benefit from the pause in tariff reform in the automotive and textile, clothing and footwear industries to firmly establish Victoria's south-west as globally competitive.

It is also vital that high-tech industry, manufacturing, engineering, and export services are allowed to operate in an efficient environment, whereby transport infrastructure and micro-economic reform create opportunity and incentive - rather than barriers - to long-term investment in Australia's manufacturing future.

An upgraded Princes Freeway is a vital ingredient in this competitiveness.

## *4. HOW TRAFFIC DELAYS COST BUSINESS AND THE COMMUNITY*

Chronic and increasing traffic delays are costing industry and business up to **$50 million** every year in lost time, fuel, maintenance, efficiency and freight management costs. Up to 3.7 million litres of fuel alone is wasted through poor traffic flows. The net effect for all Australians is higher prices, lost export earnings, and long-term damage to the environment through increased greenhouse vehicle emissions.

If the build-up of traffic on the Princes Freeway is allowed to continue without urgent improvements to its capacity, safety and efficiency, the cost of these delays will be measured by the loss of business and investment along the region of Melbourne's south-west corridor.

## *5. SAFETY AND THE COST TO THE COMMUNITY*

The Westgate Freeway is the second busiest road in Australia, with both the Westgate and Princes Freeways linking two of Australia's top eleven population centres and providing Melbourne's only direct route to the State's premier coastal attractions of the Great Ocean Road and beyond.

The Princes Freeway is recognised as one of Australia's worst stretches of road - *The Age* newspaper reported it not as a black spot, but as a "black length" (9/2/98). The road has more serious accidents than Victoria's entire 1,000 kilometres of the National Highway System. The poor design of the Princes Freeway and limited capacity of the Princes Freeway means that there are more casualties per kilometre than on 99% of the National Highway System in Victoria.

The Princes Freeway is also the most dangerous Freeways in Victoria, with one of the worst accident records for a road of its type in Australia.
The safety record of the Princes and Westgate Freeways is twice as bad as that expected for Freeways.

The road surface, especially between Werribee and Geelong, is inferior, uneven and poorly patched, while the older sections of the Freeway are prone to flooding, resulting in a number of deadly "black spots" that need urgent attention.

The road averages 6-8 fatalities per annum (about one very eight kilometres) and up to 180 crashes (2.7 per kilometre, or one every two days). The Freeway averages 100 casualty injuries and between 150-280 injuries per year. Due to the excessive congestion of traffic, there is a disproportionate number of rear end accidents and accidents involving more than one vehicle.

*This high accident rate adds to delays and disruption to business, and is another barrier to investment in Australia's manufacturing and export hub. The often lengthy delays, which cannot be avoided, cause major problems for suppliers using "just in time" systems.*

# ATTACHMENTS

# ECONOMIC VALUE

(Figures from the National Institute of Economic and Industry Research)

It is estimated that upgrading the Princes Freeway alone, from the Corio Overpass at Geelong to the Western Ring Road, will generate the following benefits:

**1. Benefits to Business, Cars and Trucks**

- Nationally: $22.3m.
- In Victoria: $21m [94.2%], including:

    - the Barwon Region: $9.9m [44.6%],
    - the Melbourne Region: $9.0m [40.4%]; and
    - the South-West Region: $1.6m [12.4%].

**2. Contribution to Gross Domestic Product [GDP]**

- Nationally: over $600m per annum at the year 2025.
- In Victoria: about $250m.

These figures reflect the facts that:

- benefits to manufacturers and consumers are more widely spread; and
- benefits are substantially redistributed by Commonwealth revenue flows.

**3. Contribution to Employment**

- Peaking nationally around 4,500 by the year 2025, mainly from the economic stimulus which flows from reduction in business costs due to the transport cost savings.
- Peaking around 2,240 in Victoria.

# MAJOR ROAD PROJECTS - BENEFIT/COST RATIOS

| Benefit/Cost Ratios ("BCR's") for Major Current Projects | | | |
|---|---|---|---|
| | | | |
| **Project** | **Cost $m** | **BCR** | **Source** |
| | | | |
| Geelong Road (Princes Freeway West) | 200 | 4.0 | Dept of Infrastructure from Bureau of Transport & Industry Economics |
| Princes Freeway East, Hallam & Pakenham Bypasses | 190 | 3.9 | " |
| Metropolitan Ring Road (Hume Hwy to Frankston) | 1,120 | 3.4 | " |
| Hume & Western Freeways' links to Western Ring Road | 290 | 3.3 | " |
| Pacific Hwy, Newcastle-Tweed Heads① | 2,500 | 'At least' 2.0 - 2.5 | NRMA |
| National Highway System parts of Western Ring Road① | 130 | 2.2 | Dept of Infrastructure |
| Calder Highway① | 230 | 1.8 | " |
| Western Highway① | 50 | 1.5 | " |
| Goulburn Valley Highway① | 320 | 1.4 | " |
| Westgate Freeway Widening② | 13 | Over 10? | VicRoads [verbally] on project cost; see below on BCR |

① These are National Highways ("NHS") or Roads of National Importance ("RONI") routes.

② The presumption of a far higher BCR on the Westgate Freeway reflects the relatively low construction cost and the major commercial benefits in reducing the heavy delays on this constrained route.

The BCR seems likely to exceed 10 on direct savings to commercial operators alone, with no allowance for the indirect or "multiplier" effects of these savings or economic activity generated by the roadworks.

[Smaller projects will often produce BCR's considerably above major projects, especially where they clear bottlenecks. For this reason, the **average** BCR of current Victorian Government projects exceeds the **highest** BCR for any major project [eg. over $100m]. In 1993, Cos, Allen Consulting calculated an average BCR of 6.0 for current and planned Victorian urban arterial projects, 4.8 on urban freeways, 2.1 on rural National Highways, and 2.0 on other rural arterials].

# FACTS

## NATIONAL ECONOMIC IMPORTANCE

- Australia's national economy depends on its transport system, and the Princes Freeway is one of the most crucial roads within it.

- The Princes Freeway carries up to 90,000 vehicles a day, with 11% of these being freight and 26% being business or light commercial, making it one of the most economically significant roads of its type in Australia.

- The Princes Freeway is the primary route to, and between, the ports of Melbourne and Geelong, which service almost 40% of Australia's exports.

- The Freeway carried 5.9 million tonnes of long distance freight in 1996, between Melbourne and Geelong, two of Australia's eleven largest cities (Source: VicRoads and Department of Infrastructure).

- The Freeway services two of Australia's largest centres of industry and the petrochemical, engineering and primary industries, in particular.

- The economic importance of the Freeway is very significant, with the benefit/cost ratio of 4:1 for the upgrading of the Freeway being amongst the highest for major Australia road projects. Spending $200 million on the upgrade will generate $800 million of economic benefit.
  (Source: National Institute of Economics & Industry Research).

- The Freeway is part of the transport hub of south-eastern Australia, with Melbourne's western region and Geelong hosting a major concentration of transport infrastructure and industry.

- The upgrade works are estimated to create extra Commonwealth revenue from the benefit generated by the upgrade via taxes. It is expected that 32% of the economic benefit will flow to the Federal Government via tax. (ie $256 million)

- The Freeway carries more freight and business traffic than 99% of the National Highway System (Source: VicRoads and Department of Infrastructure).

## THE COST

- Congestion on the Princes Freeway now costs business over $50 million per annum (Source: VicRoads and Department of Infrastructure).
- Inadequate roads in manufacturing and port areas affect all Australians, in higher prices and lost export earnings.
- The Freeway links Australia's largest concentration of industry and transport infrastructure, but is jammed daily in both peak periods.
- Delays on the Freeway are wasting 3.7 million litres of fuel per annum, generating an extra 2,200 tonnes of carbon dioxide emissions every year.

## ADDITIONAL TRAFFIC

- The Princes Freeway carries approximately 40,000 vehicles per day from Geelong, increasing to 90,000 vehicles per day at the Western Ring Road.
- Traffic is growing by 3% to 4% annually on the Princes Freeway.
- Capacity constraints now cause massive traffic jams and long delays.
- The Western Ring Road, which connects with the Princes Freeway, has encouraged large numbers of commuters and commercial operators, who previously used other routes, to travel along the Westgate Freeway, causing blockages at the junction of the Princes and Westgate Freeways during peak periods.
- The opening of the Western Ring Road has increased commercial and residential development in western Melbourne. As a result of this growth in development, the amount of daily commuter and commercial traffic along the Princes Freeway has increased.

## EMPLOYMENT

- Upgrading the Freeway will not only improve the safety of the Freeway and its flow, but will also stimulate industrial growth in Melbourne's west. It is estimated that 2,240 jobs in Victoria will be created along with a further 2,225 jobs in Australia (Figures from the National Institute of Economic & Industry Research).
- It is in the interests of industry in the western region that the upgrading of the Freeway is carried out.

## OUTMODED SURFACE

- Most sections of the Princes Freeway were built 30-40 years ago. Their design is now outmoded and their surface is inferior, creating difficulties coping with the volume of traffic.
- 16,000 tonnes per day of freight is hauled between Geelong and Melbourne.
- The interchanges at Kororoit Creek Road, Forsyth Road, Duncans Road and the Western Interchange at the junction of the Maltby Bypass and Princes Highway are all badly outdated and causing delays and safety problems.
- Maintenance costs are high because the Freeway was built to accommodate a smaller freight task.
- Much of the pavement of the freeway requires rehabilitation.
- Some sections flood and need better drainage or levels.
- There are several "deadly" black spots which need attention.

## TOURISM

- Tourism traffic to Geelong and Victoria's south-west is substantial, with 2.2 million overnight visitors and 2.8 million day visitors per annum.
- The Princes and Westgate Freeways carry more tourists than 90% of the National Highway System.

## SAFETY

- The Princes Freeway is amongst the busiest in the country.
- The section of freeway from Geelong to Melbourne has more serious crashes than Victoria's entire 1,000 km nationally funded highway system.
- It is one of the most dangerous roads in Victoria, if not Australia, with one of the worst per kilometre safety records.
- Freeways are expected to be ten times safer than a normal road, yet the Princes Freeway is only five times safer. Its safety record is twice as bad as that expected for freeways.
- Each year since 1992, on average, there have been 7 fatalities (about one every 8 km), 156 casualties (over 2.7 per km) and an accident every 3 days.
- 49 fatalities occurred between 1992 and 1998. In 1999 there have been three fatalities so far (Jan - April).
- Between 1992 and 1997, 623 accidents occurred with 936 people injured. The Princes and Westgate Freeways average over 100 casualty accidents per year on just 55 kms (Source: VicRoads and Department of Infrastructure).
- Every section of the Princes Freeway, except one, has a crash rate above the norm. Many accidents involve rear collisions due to increased traffic volumes.
- The design and capacity of the freeway is inadequate, causing more casualties per km than on 99% of the National Highway System (Source: VicRoads and Department of Infrastructure).

# COMPARISON BETWEEN THE PRINCES - WESTGATE FREEWAY AND PACIFIC HIGHWAY

| VARIABLE | PRINCES - WESTGATE FREEWAY | PACIFIC HIGHWAY |
|---|---|---|
| **Section** | Corio Overpass to Westgate Bridge | Raymond Terrace to Queensland Border |
| **Current Classification** | State Highway | Road of National Importance |
| **Upgrade proposal** | Extra lane (both ways), whole length, interchange, safety & drainage upgrades | Duplication, upgrade to freeway standard, near whole length and safety upgrade |
| **Estimated cost** | **$200 m.** to Western Ring Road, approx. **$240-250 m.** altogether. | **$2,500 m.** (from 1995) |
| **Estimated Benefit-Cost Ratios** | **4** (to Western Ring Road) | 'At least' **2 - 2.5** |
| **Daily traffic volumes (average over length)** | **54,500** (Range 30,000 - 132,000) | **Approx. 9,000** (Range .5,500 - 37,000) |
| **Estimated vehicle kilometres, 1992-96** | **5.090 billion** | **16.768 billion** |
| **Casualty accidents, 1992-96** | **511** | **Approx 5,500** (9 years to December 1993) |
| **Casualty accidents per billion vehicle kms.** | **100.4** (108.8 1994-6) | **328** (260.4 1990-3) |
| **Total casualties, 1992-6** | **771** (5 years) | **9,748** (9 years) |
| **Casualties per road km.** | **14.02 (2.80 p.a.)** (3.03 1994-6) | **13.99 (1.55 p.a.)** (1.23 1990-3) |
| **Total casualties per billion vehicle km's** | **151.47** (160.19 1994-6) | **581.35** (461.59 1990-3) |
| **Fatal accidents, 1992-6** | **27** (5 years) | **396** (9 years) |
| **Fatal accidents per billion vehicle km's** | **5.3** (5.7 1994-6) | **23.6** (18.7 1990-3) |
| **Total fatalities, 1992-6** | **34** | **555** |
| **Fatalities per road km.** | **0.62** (5 years) | **0.8** (9 years) |
| **Fatalities per billion vehicle km's** | **6.7** (7.2 1994-6) | **33.1** (24.8 1990-3) |

The Pacific Highway duplication is clearly warranted on economic and safety grounds.

The Princes-Westgate Freeway upgrade presents a stronger economic case, but a weaker safety one, as would normally be expected in comparing an existing freeway with an at-grade arterial which is not divided for much of its length.

The Pacific Freeway casualties were about 30% lower in 1990-93 than 1985-89, but Princes Freeway casualties grew about 8% from 1993 to 1996.

# COMPARISON BETWEEN THE PRINCES - WESTGATE FREEWAY AND GOULBURN VALLEY HIGHWAY

| VARIABLE | PRINCES AND WESTGATE FREEWAYS | GOULBURN VALLEY HIGHWAY |
|---|---|---|
| **Section** | Corio Overpass to Westgate Bridge | Seymour to Kialla West (NSW border) |
| **Current classification** | State Highway | National Highway |
| **Upgrade proposal** | Extra lane (both ways), whole length, interchange, safety & drainage upgrades. | Duplication, upgrade to freeway standard, near whole length and safety upgrade. |
| **Length** | **55 km** | **171 km** |
| **Estimated cost** | **$200 m.** to Western Ring Road, approx. **$240-250m**. altogether. | **$320 m** |
| **Estimated Benefit-Cost Ratios** | **4** (to Western Ring Road) | **1.4** |
| **Daily traffic volumes (average over length)** | **54,500** (Range 30,000-132,000) | **6,525** (Range 5,300 to 6,550+) |
| **Estimated vehicle kilometres, 1992-6** | 5.090 billion | 1.897 billion |
| **Casualty accidents, 1992-6** | 511 | 119 |
| **Casualty. accidents per billion vehicle kms** | 100.4 | 62.7 |
| **Total casualties, 1992-6** | 771 | 198 |
| **Causalities per road km.** | 14.02 | 1.16 |
| **Total casualties per billion vehicle km's** | 151.47 | 104.37 |
| **Fatal accidents, 1992-6** | 27 | 13 |
| **Fatal accidents per billion vehicle km's** | 5.3 | 6.9 |
| **Total fatalities, 1992-6** | 34 | 18 |
| **Fatalities per road km** | 0.62 | 0.11 |
| **Fatalities per billion vehicle km's** | 6.7 | 9.5 |

The Goulburn Valley Highway duplication is clearly warranted on economic and safety grounds.

The Princes Freeway's upgrade, however, is more urgently needed, as:

- its economic benefit-cost ratio is almost 3 times higher; and
- its safety record is much worse on a per kilometre basis, with about 12 times the casualties and 5 to 6 times the fatalities per kilometre.

Only when accident rates are adjusted to allow for vehicle numbers do the two highways become fairly comparable. The Princes Freeway experiences about 45% more casualties, but 29% less deaths, as the average severity is less.

Semi-trailers were involved in 8 of the Goulburn Valley Highway's 13 fatal accidents in 1992-6, and a truck in another. In 1996, 6 of 7 involved semi-trailers.