



## **PROJECT PROFILE**

**Australia**

**CityLink, Melbourne**

omega centre

**Centre for Mega Projects in Transport and Development**

A global Centre of Excellence in Future Urban Transport  
sponsored by Volvo Research and Educational Foundations (VREF)

This report was compiled by the Australasian Centre for the Governance and Management of Urban Transport (GAMUT), University of Melbourne, Melbourne, Australia.

Please Note: This Project Profile has been prepared as part of the ongoing OMEGA Centre of Excellence work on Mega Urban Transport Projects. The information presented in the Profile is essentially a 'work in progress' and will be updated/ amended as necessary as work proceeds. Readers are therefore advised to periodically check for any updates or revisions.

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## A INTRODUCTION

### Type of project

CityLink is a 22km roadway, comprising the Western Link and the Southern Link (VicRoads, 2008b).

The Western Link comprises a substantial upgrade to the Tullamarine Freeway (to eight lanes) between Bulla Road and Flemington Road, a six-lane elevated road through West Melbourne and a connecting bridge over the Yarra River to the West Gate Freeway (VicRoads, 2008b).

The Southern Link comprises two three-lane tunnels beneath the Yarra (3.4km and 1.6km long) and an upgrade to the existing arterial roadway (then known as the South Eastern Arterial) (to five and six lanes) between the city and the city end of the Monash Freeway, just east of Glenferrie Road (VicRoads, 2008b).

CityLink was built under a Concession Deed granted to a consortium of Transfield/Obayashi to design, build, finance, operate, levy tolls and maintain it for 34 years until 14 June 2034. It will then transfer to the State (Infrastructure Partnerships Australia, 2006).

**Figure 1: view of CityLink**



**Figure 2: view of CityLink**



**Figure 3: view of CityLink**



Source: Vicroads website project overview page available at <http://www.vicroads.vic.gov.au/Home/RoadsAndProjects/RoadProjects/InnerCity/CityLink/ProjectOverview.htm> accessed on 2 Jan 08; Infrastructure Partnerships Australia Case Study – Nov 2006

**Figure 4: view of CityLink**



### **Principal transport nodes**

CityLink joins three freeways together with tolled sections of road. The roadways link seamlessly, without any apparent changes to the surface. The tolling system is electronic and so there are no tolling plazas at the beginning of the tolled section. In fact the beginning of the tolled section is marked only by signs at the last point from which free exit is possible, informing drivers that an e-tag or day pass is required to continue. Telephone numbers are provided to allow drivers to get a day pass if required within 24 hours without penalty. The gantries reading the e-tags are located some distance from the beginning of the tolled road, to minimise their number and coincide with the positioning of the road's on and off ramps.

### **Major associated developments**

#### Docklands Development

The Docklands Development Authority was established in 1991 to pursue the development of an area of land between the central business district and the Yarra River and the Port of Melbourne Authority. The area represented unused docklands which were to be redeveloped as a residential and business precinct (not unlike the London Docklands development). Central to the proposal was that the precinct would be largely accessed by public transport rather than cars. Thus it had a dramatic effect on the routing of CityLink, in particular the eventual location of the bridge across the Yarra, and its height (VicRoads, 1994e).

Projections of the effect of Docklands in the long term assumed an increase of 140,000 private vehicle trips per day. This would be a considerable addition to traffic in the CAD. Thus Docklands needed good and sensitive connections to the surrounding network. Models predicted there would be a 32% increase in east/west traffic east of Spencer St, and to the north. Traffic crossing the Yarra would increase by about 12%, with only a minimal increase of 4% to the west. This would mean that Footscray Rd through Docklands would

carry about 105,000 vehicles per day including a high percentage of trucks (VicRoads, 1994e).

Concerns about this level of traffic included the effect on air quality, carbon monoxide and nitrogen oxide emissions. Other issues were noise and visual impairment. Heavy traffic through the docklands was therefore to be avoided (VicRoads, 1994e).

Source: EES Western Bypass.

### Port of Melbourne Expansion

The Port of Melbourne Authority was also planning for major expansion of about 40% of its container traffic. The Victorian Ports Land Use Plan (Draft final Report) envisaged growth in all forms of activity associated with the port, and noted that the development of Docklands and a crossing of the Yarra by the proposed Western Bypass to Graham St would require at least eleven berths to be closed and relocated downstream. It also noted the desire to improve Webb dock (on the South side of the River). It was noted that the road impacts from 1991 predicted an increase of 30% in total road traffic, of which only 0.7% would be trucks. So the development of the port was not predicted to involve many more trucks, and thus the overall impact of the bypass would not really affect the port: it was "not seen as essential but would certainly improve access to the north and east/south-east". The report noted that the ports would expect compensation if they had to move berths earlier than economically planned (VicRoads, 1994e).

Source: Western Bypass EES 1994 pp 42-44.

### Closing/upgrading Upfield Railway

At the same time that discussions for the bypasses became serious (1992), serious consideration was also given to closing the Upfield railway line. This was due to lower patronage on the line, and the perception that it was largely duplicated by tram routes along Sydney Rd and the Number 55 Tram through Royal Park and up Melville Rd (Interview J). This led to various changes in the proposed route of the western bypass, because if the line was closed it would open that alignment for the upgraded road. The 1994 EES was prepared under conditions in which the closure of the line was the stated preference of the government. However, under pressure the government agreed that no decision would be taken until the EES was completed.

After significant community campaigning the Kennett government, in conjunction with negotiations with the Public Transport Union over job cuts, agreed to keep the line open. CityLink engineers initially suggested that it would be impossible to build the section of the road which travels over the freeway while the trains were running and suggested a six-month closure of the line would be required. The then Minister refused this request and instructed the engineers to solve the problem without closing the line at any time. This was achieved and the line remains open to this day (Interview J4).

### Exhibition Street Extension

Announced in April 1998 as an addition to the original project, the objective of this extension was to create a direct link from Exhibition St to the Monash Freeway (VicRoads, 2008b).

The city end of the extension is a four-lane road over the railway, to join Batman Avenue and intersect with Swan St. The Punt Rd end is the connection of the extension road to the freeway via a widened overpass at Punt Rd. The bridge over the railway also carries a wide footpath on both sides, and a tram. It is an essential feature of Federation Square and

Birrarung Marr Park (which represents the major piece of land reclaimed for public purposes following the CityLink project) (VicRoads, 2008b).

This project enabled the closure of Batman Avenue west of the Tennis Centre (Melbourne Park, Rod Laver Arena). It alleviates traffic congestion during major sporting events (VicRoads, 2008b).

The project was undertaken as a modification to the CityLink project and financed by the private sector through a partial BOOT scheme. Transurban was responsible for construction of the Punt Rd end (which joins directly onto CityLink) and for operation and maintenance of the whole section once completed. The government took responsibility for construction of city end, for which it received a contract sum from Transurban on completion. VicRoads acted as project manager for this construction and civil engineering was completed by John Holland Construction (VicRoads, 2008b).

Source: Vicroads website project overview page available at <http://www.vicroads.vic.gov.au/Home/RoadsAndProjects/RoadProjects/InnerCity/CityLink/ProjectOverview.htm> accessed on 2 Jan 08

This project represented the major alteration in the CityLink project. The project was apparently not included in Transurban's concession deed because, due to changes by the Australian Tax Office, to do so would have endangered the favourable tax offset arrangements enjoyed by Transurban under the infrastructure debt financing arrangements (Interview J2).

#### Monash-Citylink-Westgate Corridor Upgrade (the "M1 Project")

In May 2006, Transurban and the State Government agreed to an upgrade to the Monash-CityLink-West Gate corridor costing AUD 0.906bn. The project will ease congestion on the West Gate and Monash freeways, and increase traffic flow onto CityLink's Southern Link. The project is funded by a buy-out of the remaining concession notes due to the government under the Concession Deed, which were encashed for AUD 0.737bn. Under the deal Transurban has also agreed to upgrade the Southern Link section of CityLink at an estimated cost of AUD 0.166bn. Extra revenue generated by the roadworks will be shared between the State and Transurban (Infrastructure Partnerships Australia, 2006).

Source: IPA Case Study 2006.

The upgrade to the project was outlined in amendments to the Project Scope and Technical Specifications Documents, and thus is subject to similar levels of detail and control as the overall project. Contract relations for the deal are managed by Melbourne CityLink Authority. That document states:

".....as part of the M1 project, the company and the Trustee will undertake the upgrade of Southern Link. The upgrade involves, among other things, the construction of an additional lane to both Southern Link section 1 and Southern Link section 5. Upon SLU Practical Completion of the upgrade, Southern Link will generally comprise of an eight lane freeway standard link connecting the Monash Freeway to the West Gate Freeway (excluding the tunnels)."

Source: Project Scope and Technical Requirements document as amended (1995, p8).

## Redevelopment of Tullamarine-Calder Freeway Interchange

“Transurban has also partnered with the State Government on a AUD 150m project to redevelop the Tullamarine-Calder freeway interchange which is currently a bottleneck in peak travel times” (Infrastructure Partnerships Australia, 2006).

In June 2005, the State and Transurban agreed to encash a number of the concession notes for AUD 0.151bn and to use the proceeds to fund the upgrade of the Tullamarine Calder Interchange (TCI) and to share extra revenue associated with the roadworks. Under a Deed of Assignment dated 9 June 2005, the State received AUD 0.1008bn on 1 July 2005 and a further AUD 50.2m on 1 July 2006. In exchange for these payments, the State transferred back to Transurban concession notes it held with a face value of AUD 0.3053bn.

Design and construction of the interchange was completed by VicRoads (Infrastructure Partnerships Australia, 2006).

Source: IPA Case Study 2006

## Development of E-tag system

The E-tag system design was undertaken independently of any other electronic toll road system, at a time when no fully automated system was in operation. Although it came into operation after the first fully automated toll road in Canada, it arguably works better with higher rates of toll capture and fewer complaints. The system is enforced by video through the perceptics licence plate reader system (LPR). LPR provides real-time identification of when the electronic road toll is violated, including time-stamped data on the original digital image to ensure efficient processing (Road Traffic Technology, 2008).

The system on CityLink includes 100 LPR imaging and processing units en route. These capture images of vehicles in real time at speeds of up to 150km/h. Each car is photographed and, if the e-tag does not work, advanced image processing comes into play. Decision-tree technology takes the offending vehicle’s licence plate numbers from the image and automatically forwards those numbers to the toll road operator, who generates an infringement notice. Day pass users phone in their licence plate and then are placed on a list within the system. The system checks numbers derived when the e-tag fails to work against the list of day pass users: if the number is on the list then no action is taken.

Source: [http://www.roadtraffic-technology.com/projects/melbourne\\_citylink/specs.html](http://www.roadtraffic-technology.com/projects/melbourne_citylink/specs.html) available on 7 January 2008

This was always part of the project and was in fact one of the greatest risks carried by Transurban and, through the Design Build contract, Transfield/Obayashi. This IT section of the project constituted the greatest risk to the project since, without its fully functioning to a high degree of accuracy (which under the Technical Specifications is 99.9% for those with transponders and 90% for those without) (Transurban 1996), revenue would not have been able to be collected (Transurban CityLink & CityLink Management, 1996).

Source: Transurban prospectus 1996.

**Figure 5: view of CityLink**



### **Parent projects**

Victoria's road network includes about 160,000km of roads and represents about 18% of total investment in infrastructure by the State. The road network is seen as a "significant factor contributing to the social, recreational and economic development of the State. In particular, the ability of the industrial and commercial sectors to transport products safely, quickly and at low cost within the road network is critical to the economic viability of those sectors and the economic development of the State" (Victorian Auditor General, 1999, p23).

The road network is shared between the Australian Government, State Government and local government. Goulburn Valley Highway, Hume Freeway, Western Highway, Sturt Highway are national highways. Calder Highway is a Road of National Importance. Other state highways are Henty Highway, Midland Highway and Princes Highway (Victorian Auditor General, 1999).

Several road projects could be considered direct precursors to the CityLink project. Under the Better Roads Victoria Program '93, money from a levy on petrol was used to create grade separations on the South Eastern Arterial at Tooak Rd, Tooronga Rd and Burke Rd. The same program was used for a widening of the Tullamarine Freeway, widening the South Eastern Arterial between High St and Warrigal Rd, and the development of a new interchange between the South Eastern Arterial and the Warrigal Highway (VicRoads, 1994b, p8).

Other road developments which impacted on the need for CityLink were the Western Ring Road, Greensborough Bypass, Scoresby Freeway and a link through the northeast of Melbourne. Although traffic predictions indicated that a completely different set of people would use these roads, they did increase the pressure for interconnection of the freeway network (VicRoads, 1994e).

Other developments that were expected to have an impact on traffic in the central business district, and therefore the need for CityLink, included the new Exhibition Centre, Crown

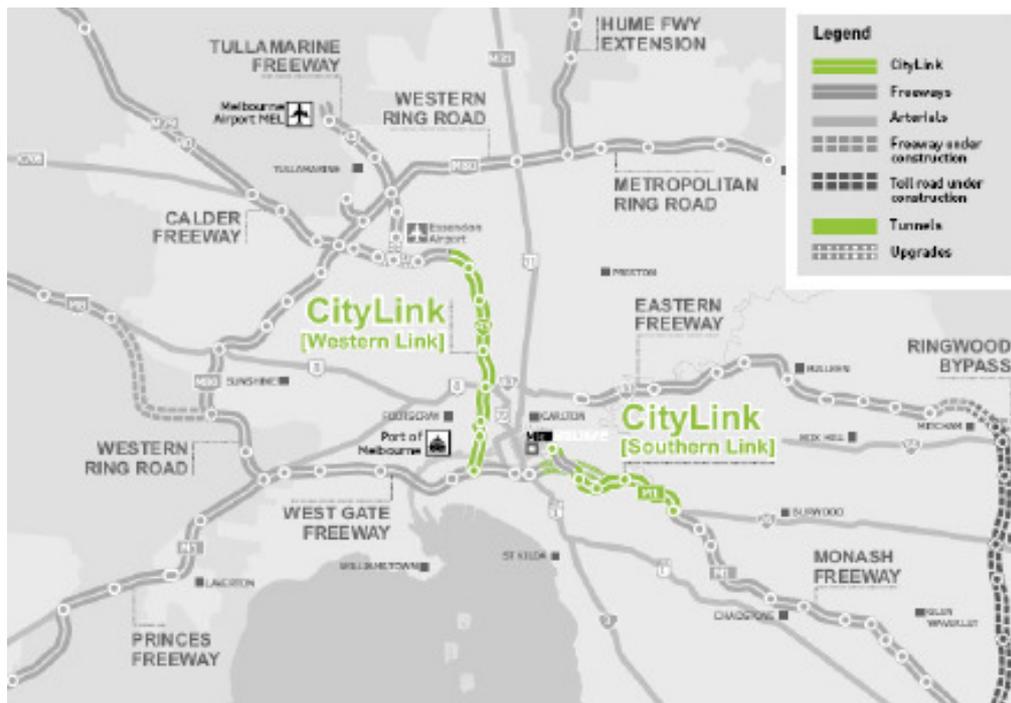
Casino, the residential development in Southbank, grade separations on SEA southeast of CityLink, widening of SEA between High St and Warrigal Rd, and the Warrigal Highway interchange with SEA (VicRoads, 1994a).

Source: Western Bypass EES Background; EES Summary Southern Bypass; Report of the Auditor General Performance Audit Report No 62, Road Construction in Victoria Southern Bypass EES.

Figure 6: parent projects location map



Figure 7: project location map



Source: Transurban CityLink Limited, 2008b

## **Current status**

Road completed in 2000.

Transurban has been very profitable since opening the road. It restructured from a single purpose entity in 2001, when Melbourne CityLink became a subsidiary ringfenced entity of Transurban Ltd. Since then Transurban has expanded, with additional activities including interests in five of Sydney's motorways and two roadway expansions in the USA (Transurban CityLink Limited, 2008b).

Source: website [www.transurban.com](http://www.transurban.com) available at 29 June 2008

The lifespan of the CityLink tunnels is under review and the subject of possible court action: the original lifespan of 120 years might be considerably shortened due to 'fixes' imposed during construction (Interview G2).

## **B BACKGROUND TO PROJECT**

### **Principal project objectives**

#### Need for the project

Problems began with the introduction of the car in the late 1800s (Russell, 2000). As early as 1929 a proposal for a southern bypass of the CBD was put forward as part of a transport plan (Infrastructure Partnerships Australia, 2006). In the 1950s several freeways were built under the 1954 planning scheme and the 1957 highway plan (Infrastructure Partnerships Australia, 2006). These radial freeways ended 5km short of the centre and were linked by residential and urban streets handling volumes up to 80% greater than their capacity (Russell, 2000). The opening of West Gate Bridge in 1979 was the final addition to the traffic pressure that finally led to CityLink (Infrastructure Partnerships Australia, 2006). Other factors which played a vital role included the development of the public transport network, geographic and demographic changes and of course the growth in private car ownership (Russell, 2000). Infrastructure Partnerships Australia (2006) describes the final factors influencing the decision as:

- freeways terminating on the fringes of the city, causing gridlock as they pumped tens of thousands of vehicles into the city;
- traffic intrusion into residential areas becoming so severe as to be harmful to the community's social and economic wellbeing;
- half of the traffic in the inner city did not want to be there and was just passing through;
- freight trucks were travelling through the CBD, contributing to congestion.

Source: Audit Review of Government Contracts Volume 2 – case studies 2000; IPA case study Nov 06.

Specific objectives stated in the Environmental Effects Statement for both Southern and Western Bypasses (VicRoads, 1994c) (later called CityLink) were to:

- reduce through traffic on inner city streets;
- improve the environment around the river, gardens and entertainment precinct;
- optimise economic benefits while minimising financial costs;
- improve access between industry and the port, rail and airport facilities; and
- minimise environmental and social implications along the Bypasses and feeder roads.

Specifically for Southern Bypass the objectives were to:

- improve the connection between the West Gate Freeway and South Eastern Arterial;
- reduce congestion in the Swan Street Bridge area;
- protect and improve the environment of the gardens, rivers, recreation and entertainment areas along the River Yarra by reducing heavy volumes of through traffic;
- improve access to the various cultural, recreational and entertainment facilities in the area;
- improve the reliability of travel times;
- reduce the cost of moving freight between the south-eastern industrial areas and the western industrial areas, Melbourne Airport, South Dynon Freight Terminal and the Port of Melbourne;

- provide the opportunity to introduce traffic management measures and improve the operation of on-street public transport; and
- continue to improve the amenity of the central area by building on improvements such as the Swanston St Walk and Southbank, by reducing through traffic (VicRoads, 1994b).

Source: Summary of EES Southern Bypass August 1994

Specifically for Western Bypass the objectives were to:

- improve the connection between the Tullamarine Freeway and the West Gate Freeway;
- reduce through traffic on City streets, inner city residential streets and approach roads;
- reduce through traffic, particularly trucks on local streets;
- reduce the cost of moving freight by improving access to Melbourne Airport, South Dynon Freight terminal and the Port of Melbourne;
- provide the opportunity to introduce traffic management measures in residential streets and to improve the local environment;
- improve safety, reduce noise and generally improve the amenity of residential areas, such as North Melbourne;
- improve safety for both through traffic and local traffic with destinations in the inner suburbs;
- relieve existing heavy traffic congestion on the southern section of the Tullamarine Freeway (VicRoads, 1994e).

Source: Western Bypass Environment Effects Statement 1994

Transurban's objectives in building the road were stated in its prospectus as:

- ensuring the link is integrated in the road system;
- developing freeway standard links;
- providing road and infrastructure programmes which are implemented on a competitive basis;
- generally facilitating movement around CAD rather than through it;
- improving access to the CAD and initiatives such as Southbank, Crown, Exhibition Centre, Docklands and major sporting venues such as Melbourne Cricket Ground, the Arts Centre, the Tennis Centre, Olympic Park;
- developing aesthetically pleasing and architecturally significant structures and treatments which enhance the City;
- promoting greater competitiveness;
- ensuring economic benefits are optimised and financial costs minimised;
- improving access for freight movements for manufacturing industry and primary producers to the Port, rail facilities including Melbourne Freight Terminal and South Dynon Container Terminal, the wholesale markets and the airport;
- improving amenity around the Yarra, botanic gardens, Kings Domain and adjacent sporting and entertainment precincts;
- minimising the adverse environmental and social impacts along the Link and the feeder roads (Transurban CityLink & CityLink Management, 1996, p13).

Source: Transurban Prospectus, 1996, p13.

The project documents were negotiated and drawn up on the basis that:

- CityLink will deliver significant benefits to the community in terms of positive economic, social and environmental outcomes;
- the project is implemented in accordance with the Infrastructure Investment Policy for Victoria (1994);
- the project is privately financed;
- the tolling system is to be available for use in other projects, subject to clause 3.2 of the Concession Deed (VicRoads, 2008b).

Source: VicRoads website: Project Overview

### **Key enabling mechanisms**

The primary enabling mechanism was the Concession Deed, signed initially on 30 October 1995 between the State, the Company, the Trustee and the Manager of CityLink project. This is the central project document which regulates the relationship between the State, Company, Trustee and Manager concerning the financing, design, construction, operation and maintenance of the Link and allocates the risk between them (Transurban CityLink & CityLink Management, 1996).

On 28 November 1995 Melbourne CityLink Act 1995 (“the Act”) passed through parliament ratifying the Concession Deed, and establishing Melbourne CityLink Authority as the State’s administrative entity with responsibility for the project. The legislation received assent on 12 December 1995 and commenced operation on 14 December 1995. (“Melbourne CityLink Act”, 1995).

Source: Melbourne CityLink Act 1995 V68; Transurban Prospectus 1996.

Other key enabling mechanisms:

- 30/10/95 Deed of Guarantee and Indemnity by Sponsors, signed by State, Transfield Holdings and Obayashi. This guarantees to the State certain obligations of the Company and Trustee under the Project Documents (Transurban CityLink & CityLink Management, 1996).
- 30/10/95 Operation and Maintenance Agreement signed between Company and Operator. This is the agreement for the Operator to operate and maintain the Link on behalf of the Company (Transurban CityLink & CityLink Management, 1996).
- 30/10/95 Contractor’s Deed of Novation signed by State, Company, Trustee, Transfield Construction and Obayashi. This regulates the relationship between the State and TOJV in the event of breach of the Design and Construct contract or the ETTM subcontract. Under it the State may require TOJV to construct the link for the State in the event of termination of the Concession Deed (Transurban CityLink & CityLink Management, 1996).
- 19/2/96 Independent Reviewer Deed of Appointment signed by State, Company, Trustee, Manager, Independent Reviewer. Under this, the independent reviewer is engaged to act as an independent expert and perform such functions as review of design and construction programmes, certification of all works and assessment of claims (Transurban CityLink & CityLink Management, 1996).

## Key enabling mechanisms timeline

Month	Year	Event
Feb	1996	Independent Reviewer appointed
Dec	1995	CityLink Act passed
Oct	1995	Concession Deed signed

## **Main organisations involved**

### Pre-construction phase

*Government:* the initial project proponent was VicRoads, a Statutory Authority under the Department of Transport. After the formal establishment of the Melbourne CityLink Authority (MCLA) in December 1995, the core group within VicRoads established its own offices directly under the Department of Transport (VicRoads, 2008b).

The functions of the MCLA were to assist development, evaluate submissions, negotiate with contractors, recommend a contractor, facilitate relations with other statutory authorities and agencies, ensure the project was undertaken in accordance with the Act and agreements. The MCLA acquired land, managed risk, negotiated with government agencies, organised and participated in consultation, and contributed to the resolution of problems (VicRoads, 2008b).

*Concessionaires:* the underwriters to the Transurban Prospectus were JB Were & Sons, Macquarie Underwriting Ltd and SBC Warburg Australia Ltd (Transurban CityLink & CityLink Management, 1996).

The concessionaire consists of Transurban CityLink Ltd (the Company) and CityLink Management Ltd, the manager of the Transurban CityLink Unit Trust (the Trust) (Transurban CityLink & CityLink Management, 1996). CityLink Management Ltd, the Manager of 'the Trust', was a wholly owned subsidiary of Macquarie Bank Ltd specially created to manage the Trust. Bonds and shares in the Company and units in the Trust were not to represent deposits or other liabilities of Macquarie Bank Ltd. Macquarie Bank Ltd does not in any way guarantee or stand behind the capital value and/or performance of these Bonds, Shares and Units (Transurban CityLink & CityLink Management, 1996).

The Company and the Unit Trust are together the project vehicles. The Trust would be responsible for design and construction of the Tullamarine Freeway and South Eastern Arterial sections of the links, and the upgrades to the existing roads (Transurban CityLink & CityLink Management, 1996).

After construction the Trust would then sub-lease to the Company the Trust land comprising the Tullamarine and South Eastern Arterial, and would raise funding under the project debt facility and the CPI bond facility and lend some of this funding to the Company by way of subordinated loans. The Trust would receive rentals, and principal and interest payments from the Company, to pay operating expenses, make interest and principal repayments on the project debt facility and CPI bond facility, and make distributions to investors (Transurban CityLink & CityLink Management, 1996).

Transurban CityLink Ltd would design and construct the remaining sections, and operate and maintain the Link once completed. The Company would be a sub-lessee of the Trust. Costs, other than operating and maintaining the link, would be rent to the Trust, interest on loans, periodic major maintenance of equipment and replacement, and payment of

concession fees to the State. If the Company derives profit it was to be distributed subject to income tax as franked dividends (Transurban CityLink & CityLink Management, 1996).

Transfield is a privately owned Australian Group. Obayashi, established in 1892, is one of the top five Japanese construction companies (Transurban CityLink & CityLink Management, 1996).

### Construction phase

The central concessionaire was Transurban CityLink (a private developer) (now CityLink Melbourne Ltd). The concessionaire divided the project into two sections, one part managed by 'the Company' and the other by 'the Trustee' (Transurban CityLink & CityLink Management, 1996).

Design and construction was by the Transfield and Obayashi Joint Venture, which was subcontracted to design and construct the entire project but worked directly only on the southern link, ie the tunnels and upgrade to the South Eastern Arterial (Transurban CityLink & CityLink Management, 1996).

TOJV subcontracted Boulderstone Hornibrook Engineering for construction of the western section, including the elevated roadway and bridge (Transurban CityLink & CityLink Management, 1996).

The electronic tolling was subcontracted to Translink Systems, jointly owned by Transfield and Transroute (a French company) (Transurban CityLink & CityLink Management, 1996).

Ongoing operation and maintenance was originally subcontracted to Translink Operations (a joint venture with Egis – owned by Transfield and Transroute). Its responsibilities also included emergency management, incident response, routine maintenance and environmental management. Maintenance includes all mechanical, electrical and electronic field equipment as well as pavements, roadside furniture and structures. This function was transferred to Transurban following difficulties with tolling arrangements and customer liaison in May 1999 (VicRoads, 2008b).

Sinclair Knight Mertz won the contract for the Independent reviewer nominated to check the quality of construction design and implementation (VicRoads, 2008b).

Notes Vicroads website project overview page available at <http://www.vicroads.vic.gov.au/Home/RoadsAndProjects/RoadProjects/InnerCity/CityLink/ProjectOverview.htm> accessed on 2 Jan 08

The government, through VicRoads, was directly responsible for the design and construction of the Exhibition Street Extension. Construction was subcontracted to John Holland Constructions (Road Traffic -Technology, 2008).

Source: [http://www.roadtraffic-technology.com/projects/melbourne\\_citylink/specs.html](http://www.roadtraffic-technology.com/projects/melbourne_citylink/specs.html) available on 7 January 2008

A total of 247 other contractors were involved in the project (Institution of Engineers Australia (Victorian Division), 2002).

## Operations phase

Transurban took over operations and maintenance. Transurban subsequently ceased operation as single purpose entity in September 2001, being restructured with a ringfenced entity (Melbourne CityLink) controlling the management and maintenance of the road (VicRoads, 2008a).

Melbourne CityLink Authority was replaced with the Office of the Director, Melbourne CityLink, on 29 February 2002, situated within the Department of Infrastructure. The functions of the Office were contract management, customer services and tolling products for infrequent users. It undertook a major public safety review and a review of traffic management, disposed of surplus land, handled community enquiries and advised the Minister (VicRoads, 2008a).

The Office of the Director was relocated to VicRoads on 8 December 2003, and was disbanded on 16 June 2004. Achievements by VicRoads included the introduction of late invoices which are substantially cheaper, the negotiation of an agreement to upgrade the Tullamarine/Caulder interchange, and arrangements for widening the remaining sections of the Westgate Freeway (VicRoads, 2008a).

What remains of MCLA is now located directly under the Department of Infrastructure.

Source: Vicroads website

<http://www.vicroads.vic.gov.au/Home/RoadsAndProjects/RoadProjects/InnerCity/CityLink/> as at

The staff of the Office of the Director largely went into the South West Extension project (EastLink) (per com Mike Smith, January 08).

**Figure 8: supporting diagram showing organisational structure**



## Planning and environmental regime

### Outline of planning legislation

Road network planning in Victoria is the providence of VicRoads, under s.16 Transport Act (Vic) 1983 ("Transport Act"), which provides that their function is, amongst other things:

- (a) to maintain, upgrade, vary and extend the State's declared road network in accordance with the Road Management Act 2004;
- (b) in conjunction with municipalities, to assist in the maintenance, upgrading and construction of other roads.

Under the same Act, VicRoads is also responsible for providing advice concerning plans for the federal network of roads in Victoria to the Federal Minister.

Under the Road Management Act 2004 ("Road Management Act") road management is managed in multiplicity by the responsible road authority, which is designated according to the functional capacity and quality of the road. S.37 describes which road authority is the responsible road authority:

- (1) Subject to sections 15 and 16 and subsections (1A) and (2), the responsible road authority is—
- (a) if the road is a freeway, for the whole of the road reserve, VicRoads;
  - (b) if the road is an arterial road—
    - (i) for the part of the roadway used by through traffic, VicRoads; and
    - (ii) for any part of the roadway not used by through traffic, the municipal council of the municipal district in which that part is located; and
    - (iii) for any service road, the municipal council of the municipal district in which the service road is located; and
    - (iv) for the median strip between the roadway and the service road, the municipal council of the municipal district in which the median strip is located; and
    - (v) for any pathway, other than a pathway on a freeway road reserve, the municipal council of the municipal district in which the pathway is located; and
    - (vi) for the roadside in an urban area, the municipal council of the municipal district in which the road is located; and
    - (vii) for the roadside in an area that is not an urban area, VicRoads; and
    - (viii) which is not located in a municipal district, the person or body specified for the purposes of subparagraphs (ii) to (vi) by the Minister in a notice published in the Government Gazette;
  - (c) if the road is a non-arterial State road, the person or body prescribed in respect of the non-arterial State road or in respect of a class of roads in which the non-arterial State road is included; or
  - (d) if the road is a non-arterial State road and no person or body is prescribed in respect of the non-arterial State road—
    - (i) if VicRoads declares by a notice published in the Government Gazette that VicRoads is the responsible road authority in respect of the non-arterial State road, VicRoads; or
    - (ii) if the non-arterial State road is on land administered under the Crown Land (Reserves) Act 1978, the Forests Act 1958, the Land Act 1958, the National Parks Act 1975 or the Alpine Resorts (Management) Act 1997, the person or body specified in or in accordance with that Act in respect of the non-arterial State road; or
    - (iia) in the case of the land referred to in the Clause in Schedule 3 to the Water Act 1989, Melbourne Water Corporation; or
    - (iii) if subparagraphs (i) and (ii) do not apply, the Crown;

- (e) if the road is a municipal road, the municipal council of the municipal district in which the road or part of the road is situated;
- (f) if the area is an ancillary area of a road, the responsible road authority for the road of which the area is an ancillary area.

(1A) The EastLink Corporation is the responsible road authority for EastLink.

- (2) In relation to road-related infrastructure on a road, the responsible road authority is—
- (a) subject to paragraph (b), the responsible road authority for the roadway or pathway to which the road-related infrastructure relates; or
  - (b) if a road authority other than the responsible road authority specified in paragraph (a) has responsibility under any other Act for the road-related infrastructure, that road authority.

For example, VicRoads would be the responsible road authority for speed signs and traffic lights on an arterial road even though the speed signs are located on a roadside for which the municipal council would be the responsible road authority. However, a municipal council would be the responsible road authority for a parking meter installed on the arterial road in the exercise of powers under the Local Government Act 1989.

The Road Management Act further provides a new process for the declaration and classification of roads. It enables the declaration and discontinuance of roads, provides for construction, inspection, and repair of public roads.

The object of the Act under s.4 (1) is:

“the primary object of this Act is to establish a coordinated management system that will promote safe and efficient road networks at State and Local levels and the responsible use of road reserves for other legitimate purposes”.

The Act further sets out the rights of road users, establishes a system of management, a system of classification, provides a mechanism for coordinating the placement and maintenance of infrastructure on road reserves, keeping registers, a decision making process in relation to standards for construction, sets out the powers and duties of road authorities, confers operational powers and accountability on road authorities, enables a code of practice, clarifies the law of civil liability and protects roads.

- s.11 provides that a roads authority has the power to declare and name a road on any land owned by it, or land managed by it (in consultation);
- s.12 provides that the responsible roads authority can discontinue roads it is responsible for;
- s.14 provides VicRoads with the power to make declarations in respect of roads. Vicroads can declare itself responsible for roads and declare what type of road it is;
- s.16 provides for designated road projects, essentially for another public agency to be designated responsible for a particular project and become effectively the road authority for that road;
- s.17 provides a definition of a public road if it is a freeway, an arterial road, a road declared under s204 of the Local Government Act 1989, a road declared under s.61 or s.93H of the Melbourne CityLink Act 1995, a road declared under s143 of the EastLink Project Act 2004, a road which is registered on a register as needed for public use, a non-arterial state road under s.14, or a municipal road declared under s.14.

Land comes to be owned or managed by roads authorities in a number of ways. The Land Act 1958 ("Land Act") provides under s.25 that crown land can be proclaimed a road. Under various sections crown land can also be leased for various purposes. Roads created under this Act are roads for the purposes of the Road Management Act. Roads made under the Subdivision Act 1988 ("Subdivision Act") (under which land is allocated to developers) are not public roads until declared so, and once they are declared so the responsible authority has management of the land on which the road sits.

The Planning and Environment Act 1987 ("Planning and Environment Act") provides rules under which land which ceases to be a road is allocated, depending on whether it was crown land or not. It provides the rules under which planning amendments can make changes to the status of roads.

The Planning and Environment (Planning Schemes) Act 1996 ("Planning and Environment (Planning Schemes) Act") provides the rules under which planning authorities are created and under which they can make amendments to planning schemes which affect roads already in existence.

Road construction is a major component of the building and construction industry in Victoria. It is governed by the Code of Practice for the Building and Construction Industry.

Under the Transport Act 1983 ("Transport Act"), VicRoads is to carry out its functions having regard to a number of objects. These include:

- (a) to make use of available transport resources in ways which are most beneficial to the community and with due regard to the enhancement of the environment;
- (b) to operate within Government policy.

CityLink was developed with regard to a number of Government policy statements.

The Kennett government transport policies were largely contained in liberal National Coalition Policy documents presented in October 1992 for the State election. These policy documents are entitled 'Roads to recovery: roads and road safety policy' and 'Revitalising our Capital City: major projects policy'. Both policies support the connection of Melbourne's major freeways and propose to achieve this through private funding (VicRoads, 1994d, p3).

These Kennett government policies recognized that the importance of coordinating transport planning with land use planning was now accepted. The view was that, as urban areas grow and economic activity decentralises, traffic congestion would extend over larger areas and for longer periods during the day.

The policy had a five-pronged approach to managing this:

- comprehensive traffic management to best cater for through traffic;
- local area traffic management to control movement and speed in residential areas;
- encouraging the use of public transport;
- developing and implementing travel demand techniques;
- constructing selected new high capacity arterial road links (VicRoads, 1994d).

Earlier policies in support of CityLink included:

- *Shaping Melbourne's Future: The Government's Metropolitan Policy 1987*, which identified the importance of transport to an efficient city as being 5-10% of the costs of doing business. It aimed to assist economic development by lowering transport

costs. It included plans for bypass routes around the central city and upgraded connections with the port and airport (VicRoads, 1994d).

- *A Place to Live: Urban Development 1992-2031* (1992) which predicted about 850,000 new dwellings in the Melbourne Central Business District to 2031. The policy was based on ecologically sustainable development, the interdependence of social, economic and environmental goals and future generations. It was about a liveable city, with urban development to support economic strengths that were environmentally responsible and effective, especially through the provision of infrastructure. The policy supported compact cities rather than outward extension of urban development, renewal of Dandenong as a centre, and the development of a central crescent of satellite towns (Ballarat, Bendigo, and Geelong) (VicRoads, 1994d).

In this policy, transport infrastructure was to capitalize on international and national gateways with linkages improved to these port, rail and airport infrastructures. This was to be supported by both the western bypass and southern bypass through a tunnel. "Demand management methods may also need to be canvassed to ensure the effectiveness of the roads in catering for freight and business traffic" (VicRoads, 1994d).

- *Building Better Cities* (Commonwealth/state) was another policy which provided objectives against which investments could be evaluated. These objectives included: economic growth and microeconomic reform; improved social justice; reform of institutional services for intellectually or psychiatrically disabled or older people; ecologically sustainable development; an improved urban environment and more liveable city. The positive outcomes of both bypasses were assessed as consistent with these objectives and they appeared to outweigh any potential negative outcomes (VicRoads, 1994d).
- *City of Melbourne Strategy Plan: Directions 1992-95*. This plan was to substantially improve public transport systems and to develop and manage the road system in an efficient and environmentally acceptable manner, thus strengthening Melbourne's function as the capital and metropolitan centre. The policy includes to "facilitate the development of the western bypass (including a Domain tunnel)" (VicRoads, 1994d).
- *Agenda 21 May 1993* included initiatives to ensure prosperity, employment and renewed pride. Projects in this policy included the Melbourne Casino, New Exhibition Centre, and the Living Museum of Aboriginal Culture. Access to these new facilities was to be improved by Bypasses (VicRoads, 1994d).
- *Southbank Village Structure Plan July 1993* is a plan of high detail for the development of the Southbank precinct, which includes assumptions on how the bypass would be developed. Importantly it assumes no connections to Sturt St (the tunnel portal being west of Sturt St), a tree-lined reserve along the top of the freeway portal, development of various sites which the bypass might affect if it is not underground at Dodds St, development of residences along the freeway and designation of the construction site (VicRoads, 1994d).

CityLink or the individual bypasses were also variously recommended by:

- *Victoria's National Roads Strategy*, which recommended investment on major freight corridors, as an "opportunity to increase the high economic returns from major inter-capital highways" (VicRoads, 1994d, p49).

- *The One Nation vision of 1992* shows Melbourne as National Transport Hub, so will focus national developments in road, rail, sea, air freight networks. Will enable “structural efficiency in distribution of goods and reduce the direct transport costs” (VicRoads, 1994d).
- *METRAS Metropolitan Arterial Road Access Study (METRAS) April 1987*. A ten year strategy for Melbourne’s arterial road system, to support economic, metropolitan and transport strategies and be responsive to environmental and resource constraints (VicRoads, 1994d).
- *NATROV National Roads Strategy Victoria (NATROV) November 1987*. As with METRAS, NATROV highlights the importance of the proposed Western and Southern bypasses and specifically supports the construction of the Western Bypass. Again the bottleneck problem around City Road and Swan St Bridge is also identified as needing to be addressed (VicRoads, 1994d, p11).
- *Vic Bicycle strategy*
- *Central Area transport strategy (CATS) March 1991*. A product of significant consultation and an attempt to take an integrated view across all transport modes. It seeks to revitalise the heart of the city through: improved public transport; diverting road traffic; improving freight movement; providing cycle paths; protecting residential areas from traffic; enhancing the streetscape; reducing vehicle pollution; and encouraging pedestrians (VicRoads, 1994d).

Finally the bypasses were supported by VicRoads’ own roads strategies: ‘Linking Melbourne’ and ‘Linking Victoria’. These two policies have strongly influenced priorities and the development of funding applications (VicRoads, 1994d).

CityLink specifically was carried out under its own act, the Melbourne CityLink Act 1995 (“Melbourne CityLink Act”). Under that Act:

- s.21 of the Concession Deed (appended to the Act) makes provision for the Minister administering the Planning and Environment Act, on the advice of the Minister administering the Act under which the Deed was ratified, to amend any planning scheme applying to any land in the project area to facilitate the project. This included providing that no permit was required at all;
- s.22 makes the MCLA the relevant authority with regard to planning permits for land in the project area;
- s.25 makes the land in the project area Freeways and obtainable by Order in Council;
- s.38 gives power to acquire land.

The Local Government planning scheme (“Local Government Planning Scheme”), which sets out policies and requirements for the use, development and protection of land for each municipality in Victoria, was amended in the municipalities affected where relevant, to allow for special arrangements for land associated with the Melbourne CityLink project and Exhibition Street Extension Project. Clause 45.07 provides that:

- a permit is not required for developments on the land associated with the projects;
- the Minister to be responsible for approving additional outdoor advertising signs where they are not specifically prohibited on the plan titled “Melbourne CityLink Project – Advertising Locations November 2003”;

- permits to be granted for advertising signs in the case where land has ceased to be used for the projects;
- a permit is required on the buildings associated with the projects at Lorrimer St only if they exceed three storeys in height or are not generally in accordance with plans presented.

Clause 66 provides further information on who is to be referred to in the event of development of various classes on various lands, including subdivision. Clause 36.04 provides information on permits required for various types of proposed uses on road zones.

### Environmental Statements

A combined Environmental Effects Statement (EES) was produced for the Southern and Western Bypasses in 1994. The EES consultation process commenced in 1992. For the Western Bypass it followed from two previous EES processes in 1984 and 1989 (VicRoads, 1989) respectively. According to the Environment Effects Act 1978 ("Environment Effects Act") the aims of an EES are to:

- ensure that the likely and significant environmental effects of proposals are carefully described and considered before decisions are made;
- promote greater awareness of environmental values;
- encourage environmentally sensitive, high quality planning, design, management and operations;
- provide for informed public involvement in the decision making process;
- ensure careful consideration of environmental policy in decision making.

The process for the EES (which equates to the public consultation conducted for the project) is outlined in the next section, Public consultation. During the project however a number of statements and claims regarding the environmental impact of CityLink were made. These claims are presented here, along with the key concerns and findings raised in the EES process. VicRoads, as the proponent for the project, was responsible for obtaining the required environmental approvals.

The second cost benefit analysis conducted on the project states that "CityLink will also yield some significant environmental benefits. Congestion levels will fall ... traffic noise levels will also decrease. In addition, the project involves the construction of extensive noise walls to provide surrounding areas with further protection from traffic noise" (Allen Consulting p8). The report further remarks that the project will involve upgrades to Moonee Ponds Creek, the establishment of a lake near the intersection of the Tullamarine Freeway and Flemington Rd, and construction of additional pedestrian and cycle paths which will improve the amenity of the road (Allen Consulting Group Pty Ltd, John B Cox, & Centre of Policy Studies, 1996).

Supplement A to the EES (VicRoads, 1994d, p27) states on urban consolidation that "it has long been recognised that major roads and freeways have negative social implications where they bisect communities". However this is not seen as a major problem for the Bypasses because the western bypass goes along existing bisections (the railway line and Moonee Ponds creek) and the southern bypass is in a tunnel. Thus they actually help consolidation because they remove through traffic and increase amenity.

In discussion of the impact in relation to environmentally sustainable development Supplement A discusses a number of specific policies that are particularly relevant to the 'ESD thrust', concentrating on integrating social and environmental goals with economic goals (VicRoads, 1994d).

The bypasses are claimed to support objectives for open space, especially along the River Yarra and in Domain, by the reduction of car traffic and downgrading of roads. Birrung Mar, a new park on the north side of the Yarra on land reclaimed from the railway sidings during the building of the Exhibition St extension, is one example of the success of this approach. The tone of the report is interesting here: “if the link is designed in such a way that Alexandra and Batman Avenues carry less traffic and can be downgraded, there could be great benefits to the amenity of the Yarra River. On the other hand, a route that puts more traffic on these roads (AKA any other one than the key one supported by this document) would have serious impacts, especially if road widening was required with consequent tree removal and encroachment on open space” (VicRoads, 1994d, p46). It is important to note here that in a very real sense in Victoria these trees (the elm trees) could be described as archaeological.

The bypass, if implemented with the abovementioned traffic calming measures to decrease traffic to the city, would offset the possible increase in greenhouse gas emissions from the bypasses. The report notes however that “the usual pattern is for more ‘efficient’ road systems to generate additional traffic to take advantage of the space created, therefore tending to erode any efficiency advantages” (VicRoads, 1994e, p46).

“In summary, in terms of ESD policy directions, the assessment of the bypass proposals is largely contingent on the nature and extent of associated traffic and demand management measures introduced as a package with the projects. If comprehensive measures are introduced that limit total traffic volume increases (and hence energy consumption and greenhouse emissions) and that create favourable conditions for public transport, bicycle and pedestrian access in the CAD and surrounds, then overall ESD requirements may be satisfied” (VicRoads, 1994e, p47).

It is important to note here that this entire discussion, which is contained in a document supposedly shared by the Southern and Western bypasses, says virtually nothing about the ESD effect of the Western link. Most of the identifiable environmental benefits of the road relate to the Southern Link.

The EES process recognized the following environmental impacts for the preferred option for the Southern Link:

- *Road safety*: the Link would be much safer, estimated to lead to about 190 fewer injuries and deaths each year. A financial saving of about AUD 13.5m per year (VicRoads, 1994a).
- *Opportunities for pedestrians and cyclists*: removal of through traffic from parklands at Kings Domain would provide a favourable environment for pedestrians and cyclists. Almost all vehicles would be removed from Batman Avenue and Lithgow Avenue (later all traffic was removed because of the reconfiguration with the Exhibition St extension). It would be possible to provide a new cycle path to remove cyclists from the south bank of the Yarra. A new cycle path was already being constructed on the north bank of the Yarra from Gibdon St to Mary St (VicRoads, 1994a).
- *Noise*: noise would be reduced along Southbank Boulevard, City Rd and Sturt St (the Arts precinct), and near Olympic Park and Kings Domain. Tunnel ventilation stakes would produce almost inaudible noise levels. A more stringent noise limit would apply to the South Eastern Arterial. (VicRoads, 1994a).

- *Air quality*: air quality would essentially remain the same, although minor local effects would be present (VicRoads, 1994b, p21). The limits set by EPA would not be exceeded as a result of building the Bypasses. Ventilation stacks would control the emission of air from the majority of the tunnel length, with only air between the vent and portal coming out of the portal. “Consultant studies show that discharge of tunnel ventilation air will not have a significant effect on local or regional air quality” (VicRoads, 1994a).
- *Health effects*: health could be improved through safer travel, marginal changes in air quality, lower noise, and fewer causes of stress. “Most residents would experience either positive or neutral effects but some may experience slightly more noise and stress”. The exact nature of the health effects is uncertain (VicRoads, 1994b, p27).
- *Vibration and ground movement*: “the bypass is unlikely to cause any problems due to vibration except possibly with near-surface works between Brighton St and Mary St”. Some ground surface settlement and damage to houses could be expected, and extensive monitoring and surveillance with speedy restoration works would be required. Special efforts would be required to prevent problems (VicRoads, 1994b).

The EES process recognized the following environmental impacts for the preferred option for the Western Link:

- *Air quality*: air quality in Melbourne and North Melbourne rarely exceeds EPA limits with the exception of ozone, which is a problem on some days of the year due to the development of an inversion layer. The analysis for the preferred option was that air quality would be little different and at least meet EPA limits (VicRoads, 1994e).
- *Noise*: noise levels rise considerably above the EPA limits for the old Tullamarine freeway (68dB(A)L in some places) and noise on ancillary roads in North Melbourne rises to 81dB(A)L, but is not actually monitored by the EPA. With the elevated roadway the noise levels would increase for residents in flats in Kensington, but this could be fixed through adjustments to the building if this was included in the contract. (this issue gained such momentum that the sound tunnel was invented as a solution – see Figure 1). The EES concluded that the link could be built within VicRoads’ aim of a maximum noise level of 63dB(A)L, with generally reduced noise except at Graham St and affected residences protected with sound-proofing (VicRoads, 1994e).
- *Open space and visual impacts*: there would be open space and visual impacts because the elevated bypass would be seen and the bridge would be very visible. But the bridge could become a feature if architecturally designed, and the road would provide entirely new views of the city. There would be no effect on community linkages. There would be some construction impacts but they would be minimal, due to working on new roads. The road would result in the closure of some areas of open space but the development of others (VicRoads, 1994e).
- *Health effects*: the link might possibly create some short term health impacts including stress from noise. The largest health effect would be a reduction in road injuries; air quality would be unlikely to be affected (VicRoads, 1994e).
- *Waterway effects*: the road would have some impact on the floodway of Moonee Ponds Creek. The project allows for landscaping, including planting along the train line and development of the wetlands area south of Arden St. There would be no

effect on flora, fauna or habitat. Possibly there could be an increase in the silt load of Moonee Ponds Creek. Construction could impact river traffic (VicRoads, 1994e).

- *Archaeological sites*: There would be no effect on heritage or archaeological sites (VicRoads, 1994e).
- *Contaminated sites*: The Western link would require the clean-up of several sites of contaminated land in accordance with EPA principles (VicRoads, 1994e).

The final analysis of the EES is that the Western link proposals could meet all the criteria for environmental approval except possibly the aesthetic and visual impacts (VicRoads, 1994e).

On environmental impacts the Transurban Prospectus (Transurban CityLink & CityLink Management, 1996) states only that “the project will comply with standards for noise, water and air pollutants”.

The Auditor General’s report (Victorian Auditor General, 1999) notes that VicRoads does not tend to evaluate the results of roads against claimed benefits in terms of amenity, social improvement or economic gain.

Amongst the recorded or known impacts and amelioration efforts, the issue of air quality around vent stacks for tunnels was significant during the pre-construction phase. During construction significant environmental monitoring was carried out by the EPA, which could not find any significant changes to air quality (Interview A).

The issue of noise was identified as significant for both Southern and Western bypasses, especially near McRobinson High School on the Southern Link and for high rise apartment buildings in Flemington. This led to the development of the sound tunnel, and construction of far more extensive noise walls than was initially envisaged. These noise walls, which have the capacity to also provide shade, in particular for McRobinson High School, were made of transparent material to prevent this issue. As predicted there was some increase in noise in the Flemington area (Interview A).

Melbourne Water monitored water quality in Moonee Ponds Creek during construction (VicRoads, 1994e).

### Overview of public consultation

In May 1991, the Victorian Government issued guidelines for seeking private sector investment in infrastructure. “Since the guidelines were released there has been much interest in the bypasses from the private sector”. In March 1992, the Victorian Government announced the private sector would be invited to be involved in the construction of the bypasses.

On 18 June 1992, the Minister for planning and housing directed that the EES be prepared. In August 1992, the EES process commenced. In October 1992, a general election was held, leading to a change of government. The new government commenced a review of the financial and economic aspects of the project. This was carried out between October 1992 and April 1993. The review recommended that further work on the physical form and the cost estimates should be completed before the tender was finally let. It also expressed concern regarding the size and nature of revenue sources, the preferred financing method and Loan Council borrowing limits.

On 1 July 1994, the Premier announced that the project would commence the following year. Short listed bidders were provided with project briefs and informed that the EES would form part of the briefs.

In August 1994 the findings of the EES were published, after an announcement that the contract would be going ahead.

The EES was coordinated by a Consultative Committee formed by the Minister for Planning. The purpose of the Committee was to provide extensive consultation and discussion with the wider community. The EES would also have technical input from a number of specialist consultants.

The objectives of the consultation process were to:

- provide opportunities for all interested and affected people to be informed of the need, problems, proposed solutions and alternatives, and to contribute ideas and suggestions, raise issues of concern and have their concerns addressed properly;
- ensure the EES addressed all issues and concerns about social, environmental and economic impacts;
- fully inform all interested and affected people so they can decide at what level they want to take part;
- guarantee that the EES truly reflected and addressed community concerns so that the minimum performance standards set for the project would protect both road users and affected communities (VicRoads, 1994c).

The terms of the Consultative Committee were to

- consult and where necessary convene meetings;
- ensure all interested and affected parties were informed of the proposal and alternatives, and were represented and given an opportunity to express their views;
- examine the bypass proposals and assist in defining the preferred alternative;
- advise and assist in determining the scope and content of the EES;
- advise the Minister on the need to do things differently (VicRoads, 1994e).

The Chair of the Consultative Committee was Mr Robin Saunders of VicRoads. The Committee included four community representatives. Meetings were held in the central business district, and consisted of 40-50 members of the committee and observers (VicRoads, 1994e).

The process for consultation was applied as a formula for both bypasses (Interview J4). Only one Consultative Committee was formed. During the process VicRoads:

- met with councils (councillors and/or staff);
- held eight area-based community information meetings and four issue-based forums on the Southern Link and the same number on the Western Link. Initial area based meetings were held in October, November and December 1992. Issue based forums were conducted in December 1992 (on options), February 1993 and February 1994 (on health and environmental impacts);
- distributed five bulletins and eight information sheets on the Southern Link and the same number for the Western Link. In these bulletins, people contributed ideas and suggestions and raised issues of concern. In the west, these bulletins were mailed to a list of 3,200 names. They were also hand-distributed to 18,000 residents along the routes;

- attended over 200 meetings with individuals, groups, departments and authorities on both the Western and Southern links;
- held a display of the schemes for each bypass (VicRoads, 1994b).

#### Key issues for the Southern Bypass:

- alternatives – especially the use of rail for freight transport, but also other road options, public transport and land use changes (VicRoads, 1994a);
- traffic noise, air quality and health impacts – of concern to many living near the proposed route. There were a number of concerns about existing conditions on SEA and in Bayside which could get worse (VicRoads, 1994a);
- preventing traffic intrusion into adjacent suburbs – particularly a concern for Bayside;
- encouraging the use of traffic management (VicRoads, 1994a);
- impacts along the existing South Eastern Arterial – related to increased traffic volumes and noise, air quality and health. There were also concerns about the intrusion of SEA into South Richmond, the difficulty of accessing the banks of the Yarra, the impacts of property acquisition and the implications of the tunnel going under properties (VicRoads, 1994a).
- the impact on the City Centre – concerns were expressed about increased traffic, although others anticipated a beneficial decrease in traffic (VicRoads, 1994a).
- economic and financial viability – a concern that private sector debt would lead to a vast increase in debt and would end up costing Victorians dearly. Others were concerned about the current economic climate (VicRoads, 1994a).

#### Key issues for the Western Bypass:

- alternative transport solutions, ie other road options, public transport improvements, land use changes, no improvements. Increasing use of rail for freight was “frequently mentioned” (VicRoads, 1994e, p11);
- traffic noise, air quality and health impacts: especially an issue for those living near corridor, and a number of concerns about existing conditions along the Tullamarine and the bayside corridor which some considered would be worse after completion (VicRoads, 1994e);
- proposals to prevent traffic intrusion into adjacent suburbs: methods of preventing traffic flow into adjacent suburbs, particularly along the bayside, were proposed at several meetings. Use of traffic management was encouraged to ensure that the benefits of the bypass were achieved without serious problems being created elsewhere (VicRoads, 1994e).
- the effect of bypasses on the city centre: many residents were concerned that traffic increases (particularly amongst commuters) were likely, while others saw reduced traffic as both likely and beneficial (VicRoads, 1994e).
- economic and financial viability: some were concerned about private sector involvement leading to a vast increase in debt with costs to Victorians. Others were concerned at the scope of the project given the economic climate (VicRoads, 1994e).

The Western bypass had been the subject of several other community consultations: the first in 1984; and another in 1989 which was never completed. The 1989 EES looked only at section 1 of the bypass (to Footscray Rd). In that process the community wanted a tunnel under Mt Alexander Rd and Racecourse Rd, rather than a high overpass at Macaulay Rd. The road was to be kept to east of the creek to minimise the environmental impacts on to

Moonee Ponds Creek. The report (VicRoads, 1989) claims that “the latest proposals are the result of bending of technical methods of achieving desired objectives, and input from local government, community groups, users, landowners and other interested parties” (VicRoads, 1989, p10). It should be noted however that the proposals put to the community in these earlier consultations were radically different from the one under review in the 1992-4 process.

Community meetings, held with each affected council, raised concerns about the need to evaluate other options, noise, air and health effects, financing and how motorists would pay, the limited time for consultation and the need to resource the community, and concerns about hazardous materials in tunnels. There were also other specific concerns (VicRoads, 1994e, p109). Councils were also to have an opportunity to be involved in the detailed design phase.

The EES promised that once the road was to proceed, VicRoads would convene a community group to provide input to the development of detailed perspectives from the community perspective. Following approval but before construction a further set of detailed investigations would be conducted. The results would assist with the preparation of detailed design and construction plans, including investigations into: land use, tenure and control; foundations; transport and traffic; effects on Moonee Ponds Creek and the Yarra River; landscaping requirements; noise; economic conditions; and public utilities (VicRoads, 1994e).

#### Ecological mitigation

Reconstruction works and landscaping were conducted along Moonee Ponds Creek, with reclamation of the wetland at the bottom of the creek. Over two million trees were planted during landscaping. During tunnelling 30 elms were transplanted temporarily and returned successfully along the banks of the Yarra River (Institution of Engineers Australia (Victorian Division), 2002).

Landscaping was conducted along the entire road at ground level. Landscaping was also carried out for the length of the Moonee Ponds Creek affected by the elevated road, and along part of the elevated road on the Southern Link. The length of this landscaping has not been formally documented; however it would be in the order of half of the entire length of the roadway. The width of the landscaping varies considerably depending on the width of easements allowed to the road, so an estimate of the area involved is not available.

Part of the environmental objective was fulfilled by an upgrade to the banks of Moonee Ponds creek and planting of native trees and shrubs, creating a permanent body of water between Flemington Rd interchange and Dynon Rd (Transurban CityLink & CityLink Management, 1996). The works will enhance the Moonee Ponds Creek concept plan and support Melbourne Water’s objective of increased flood management capacity (VicRoads, 1994e). The Western bypass goes through one of the oldest settled parts of Melbourne. There are three sites of archaeological interest: under the car park at the old ballet school in Debneys Park where remnants of Debney’s Tannery may exist; the Metro gasworks site adjacent to Footscray Rd north of the Yarra; and the Dudley Flats site where a shanty town grew up during the Depression. This requires the opportunity to recover or record any artifacts or significant features (VicRoads, 1994e).

#### Regeneration

The estimated number of jobs created includes 260 people employed (30 November 2006) (Infrastructure Partnerships Australia, 2006). There was one death from an industrial accident, and one related suicide. The estimated construction employment is 600-800.

Office space created includes an office for CityLink at the corner of Lorrimer St and Montague St in South Melbourne (see interchange picture for aerial photograph of building). The exact footage is unknown but is estimated at 240 sq m.

New homes - nil.

### *Clarifications*

Projected changes made in the EES for development across Melbourne generally are for a major shift in population to the outer southeastern areas; one in five of the population are predicted to be living there in a few years. The area east of Springvale Rd already has a population and economy the size of Adelaide (Allen Consulting Group Pty Ltd et al., 1996).

This was predicted to:

- shift industrial commercial development from the inner urban area to the south and southeast;
- create less than full use of some existing infrastructure;
- make some land uses out of date;
- reduce job prospects in some employment sectors;
- create an increasing distance between traditional labour sources and job locations.

This implies more cross-town freight traffic, suburban and cross-town commuter traffic, private vehicle usage and travel distances (Allen Consulting Group Pty Ltd et al., 1996).

VicCode is trying to develop higher densities of residential development within existing and outer areas, and increasing redevelopment of inner urban areas for residents. One outcome of this is that there are fewer opportunities to develop non-white collar employment in the inner urban areas (Allen Consulting Group Pty Ltd et al., 1996).

A number of new developments are happening in the area of the western bypass:

- new residential developments in Parkville, North Melbourne and Kensington;
- expansion of the Flemington shopping centre;
- port developments and freight expansion proposals;
- development of the docklands;
- changes to car manufacturing in Port Melbourne, development of the exhibition centre and the completion of the crown casino.

These changes are expected to create 44,000 more vehicle movements per day, with 5,200 per hour travelling after midnight (VicRoads, 1994e).

In terms of demographics, at the time of report the actual number of residents in the area was declining, but plans were being developed to return population levels to the suburbs' highest levels in the last 20 years. This would entail a population increase of between 30% and 45% (VicRoads, 1994e, p43).

There is an expected long term trend of a continuing fall in employment.

The EES for the Southern Link identified the following local development and economic effects:

- *Local economic effects:* inject approximately AUD 1bn into the local and regional economy with multiplier effects (local here appears to refer to the entire area of

Melbourne, although that is not specified). Widening the road would affect up to five businesses, which would seek to relocate in inner Melbourne. Compensation would be paid and time given for relocation (VicRoads, 1994a).

- *Development opportunities:* there would be development opportunities on the remainder of the land purchased to widen the road. This would compensate for losses of employment (VicRoads, 1994a).
- *Employment:* about 400 employees would be affected by widening the road. Most would be able to continue their current employment (VicRoads, 1994a).
- *Project employment:* it was estimated that about 1,500 jobs would be created directly in construction, with an extra 4,000 from the flow-on effect. This was expected to last about five years (VicRoads, 1994a).
- *Impact on council rate revenue:* a rate loss to City of Yarra of about AUD 150,000 per annum. This rate loss would be redistributed through the municipality and some would be offset by redevelopment. There would be no rate loss in Richmond from the deep tunnel (VicRoads, 1994a).
- *Neighbourhood and community impacts:* dislocation and severance would not be a problem as all existing linkages would still remain. Business disturbance and employment effects associated with widening the road were anticipated to be minimal, with relocation in the inner city area. Deep tunnels may cause some stress, creating the need to provide the opportunity to acquire affected properties of those suffering financial hardship or distress. Costs were not included (VicRoads, 1994a).
- *Community facilities and services:* the only effect would be on the children's playground at Charles Evens Reserve in South Richmond. This could be relocated (VicRoads, 1994a).
- *Aesthetic and visual impacts:* these would include a significant improvement to the Yarra River, Kings Domain and the Olympic park, and additional landscaping along SEA in South Richmond. All structural modifications would be carried out to meet existing structures. Any tunnel portals at Burnley would need to provide an additional grade-separated structure above the existing SEA structure and would impact on the Yarra and the amenity of nearby residential properties (VicRoads, 1994a).

The EES for the Western Bypass found the following local development and economic effects:

- CityLink would affect about twelve commercial properties, causing some dislocation. Given that only 5% of affected employees live locally and 88% travel by car, the effect of relocations would be likely to be small especially as most businesses said they would prefer to relocate in the area (VicRoads, 1994e);
- the project would improve connections by using existing severance lines and improving some of the connections already in place (VicRoads, 1994e);
- the project would have no effect on local economy, but in longer term could possibly improve it through better access (VicRoads, 1994e);

- the project would increase property values in Docklands particularly and possibly in some other areas, but would decrease it due to visual intrusion in other areas (VicRoads, 1994e);
- the project would provide additional access and therefore job opportunities near public housing estates, and possibly offset the trend to new employment being located away from CAD, and support the central area as the key commercial centre (VicRoads, 1994e);
- the project would create direct economic benefits of about AUD 155m/a with a multiplier effect of five on the surrounding economy. It was expected to increase employment by about 5,000 after operating eight years, from the stimulus to trade (VicRoads, 1994e);
- the project would have only a minor effect on community facilities and services. The only community assets to be affected would be Flemington Community Centre, which will require changed access, Debney's Park Children's Centre which would have to be relocated, and a small slice of Debneys Park along Mt Alexander Rd, which would be lost to the road (VicRoads, 1994e).
- CityLink would reduce rates for councils for Essendon and Melbourne, but this would be offset by increased development (VicRoads, 1994e);
- it would have little initial impact on land use. In the longer run improved accessibility could attract high value added transport dependent businesses (VicRoads, 1994e).

Source: EES Western Bypass; Southern Bypass; Allen Consulting.

## Appraisal methods/approaches

**Table 1: appraisal methods/approaches**

	Before construction	During construction	After construction
Baseline studies	Allen Consulting Cost Benefit Analysis (see section 'commentary on financing/funding')		
Monitoring environmental variables	EES process including technical reports Baseline water quality monitoring in Yarra by Transurban EPA monitoring air quality	EPA monitoring of air quality Melbourne water monitoring Moonee Ponds Creek Yarra water quality monitored	EPA Melbourne Water Transurban
Risk analyses	1yr risk analysis process for financial risks. Risk to traffic flows analysed. What constitutes material adverse effect identified in Concession Deed Appendix Clause 2.9		

## **Complaints procedures**

Information on construction activities on South Eastern from Tranfield-Obayashi Joint Venture Communications Department.

Project updates - Transurban CityLink Website.

Other issues - Melbourne CityLink Authority.

Display Centre at Goschs Paddock open weekends (Tranfield Obyashi Joint Venture, 1997).

A main source of complaints was through talkback radio. Air quality inside the tunnel was one such issue, which was later dealt with by Transurban after construction was complete and users complained (Wikipedia, 2008).

## **Land acquisition**

Number and type of compulsory acquisitions: an area of Melbourne and Olympic Parks (public land) 10.40ha ('Melbourne CityLink Act', 1995).

The western bypass link was developed to avoid land acquisition. This was because between Mt Alexander Rd and Arden St there are a number of high value properties which are difficult to move. The estimated cost was between AUD 2m and AUD 16m. Further, south of Arden St most of the areas are controlled by the Public Transport Corporation or Port of Melbourne Authority. Rights would have been required as well as alteration to the SEC line. This was largely avoided by building the elevated section of the road (VicRoads, 1994e).

Some properties affected are businesses which might relocate.

Land costs and agreed works were covered by the Government to the sum of AUD 340m (Russell, 2000).

Source: Review of Independent Auditor 2000.

Property effects: properties (mainly government) to be acquired were between Kings Way and St Kilda Rd. Most work was under ground, although there was some impact from the road widening. Residents were concerned about tunnelling but it would "not have a direct physical impact at ground level in Richmond (except possibly Loys Paddock)". Compensation would be paid for residences and open space (VicRoads, 1994a).

Property values: some increased because of the noise reduction. Some decreased where tunnels were not deep (Church St to Mary St). Some changes were due to other traffic movements, and the possible increased exposure of several properties in South Richmond and possibly around the tunnel portal opening in Burnley. Noise reduced to 63dB(A)L (18 hr) (VicRoads, 1994a).

Source: Summary Southern Bypass EES

## **C PRINCIPAL PROJECT CHARACTERISTICS**

### **Description of route**

The Western Link comprises a substantial upgrade to the Tullamarine Freeway (to eight lanes) between Bulla Road and Flemington Road, a six-lane elevated road through West Melbourne and a connecting bridge over the Yarra River to the West Gate Freeway.

The Southern Link comprises two three-lane tunnels beneath the Yarra (3.4km and 1.6km long) and an upgrade to the existing arterial roadway (then known as the South Eastern Arterial) (to five and six lanes) between the city and the city end of the Monash Freeway, just east of Glenferrie Road (VicRoads, 2008b) (Infrastructure Partnerships Australia, 2006).

Source: Vicroads website project overview page available at <http://www.vicroads.vic.gov.au/Home/RoadsAndProjects/RoadProjects/InnerCity/CityLink/ProjectOverview.htm> accessed on 2 Jan 08; Infrastructure Partnerships Australia Case Study – Nov 2006.

### **Route development**

The Western Bypass route was discussed over many years and experienced movement to the east or west of Moonee Ponds Creek as decisions were variously made as to whether the railway would be closed or open. The EES presented six alternative routes – three using the railway land, and three presuming the railway remained open (VicRoads, 1994e).

Until the 1992 planning process, there were two sets of options for section 2 of the road from Footscray Rd to the Westgate. The first set of options was to upgrade Footscray Rd itself to freeway standard. The second was to build a bridge across the Yarra River joining the Westgate at Graham St. By 1994 only the second remained on the table because the envisaged development of Docklands precluded the first (VicRoads, 1994e).

The Southern Bypass route was determined by findings regarding the presence of Silurian silt stone, which required that the longer tunnel be built at a depth of 60m. The other development concerned the length of the two tunnels (VicRoads, 1994a).

The Southern Bypass was originally proposed as part of an inner ring road around CAD in the 1954 Metropolitan planning scheme. In 1963, proposals to provide a link between St Kilda Rd near Grant St and Albert St East Melbourne were considered, going through the Domain near the Myer Music Bowl. This scheme was modified in 1971 to provide a six lane freeway from Wellington Prage south across the MCC parking area, passing beneath the Domain and St Kilda Rd to surface in Grant St. Construction was scheduled to commence in late 1970. The plan was abandoned in around 1975 following significant protests by inner urban dwellers. Various ideas relating to tunnels persisted but were not followed up until the Westgate freeway between Graham St and Sturt St was opened in 1987. The 1977 planning investigation recommended further investigations of solutions relating to the connection of Westgate and SEA. In 1981 a detailed study was undertaken to identify the most appropriate management measures that should be implemented on existing roads. This recommended a number of small measures which were implemented and some major ones (such as widening of Swan St bridge) which were not. It was noted that the ultimate solution would be to join up the freeways (VicRoads, 1994a).

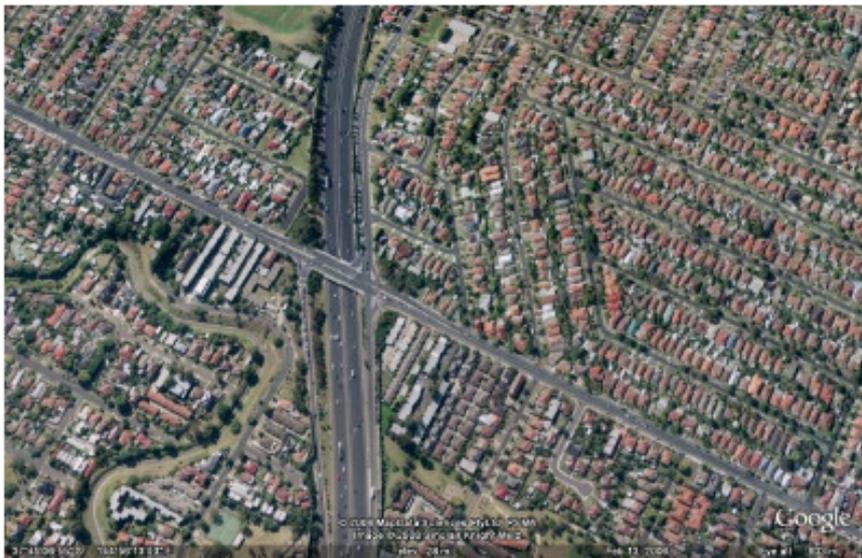
The route was developed by Transurban as part of the initial bid. The government did not specify exactly how the road was to be constructed but rather asked for tenders on achieving certain goals, which were to join up the freeways in an environmentally sensitive way which was the most economically beneficial (per com Mike Smith Jan 2008).

### **Main and intermediate travel nodes**

CityLink begins at the tolled section of the Tullamarine Freeway south of the Pascoe Vale Road/Bell Street interchange in Strathmore. Interchanges on the tolled section of the Tullamarine Freeway in order running south are:

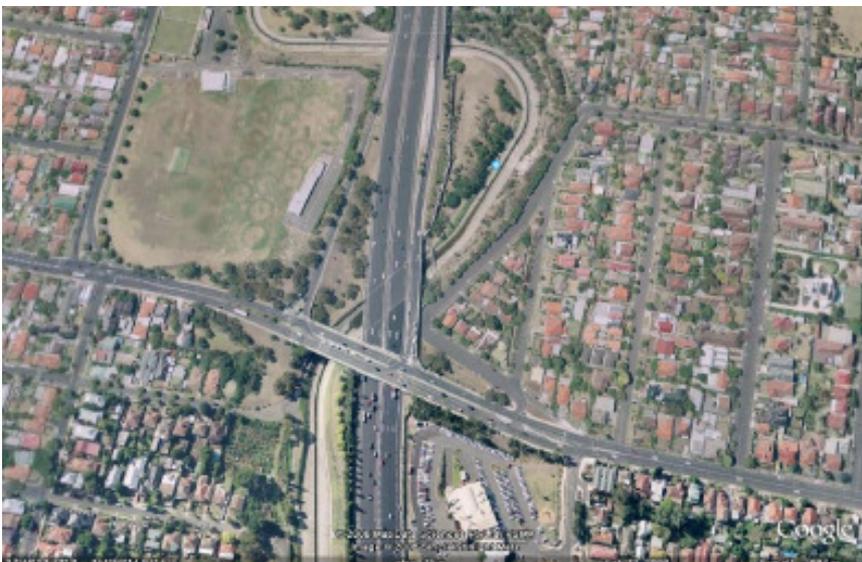
- Moreland Road, Coburg: citybound entrance, outbound exit;

**Figure 9: Moreland Road interchange**



- Ormond Road/Brunswick Road, Brunswick: citybound exit, outbound entrance;

**Figure 10: Ormond Road/Brunswick Road interchange**



- Mt. Alexander Road, Flemington: citybound exit, outbound entrance;

**Figure 11: Mt. Alexander Road interchange**



The freeway then officially becomes the CityLink “Western Link”:

- Racecourse Road, Flemington: citybound entrance, outbound exit;

**Figure 12: Racecourse Road interchange**



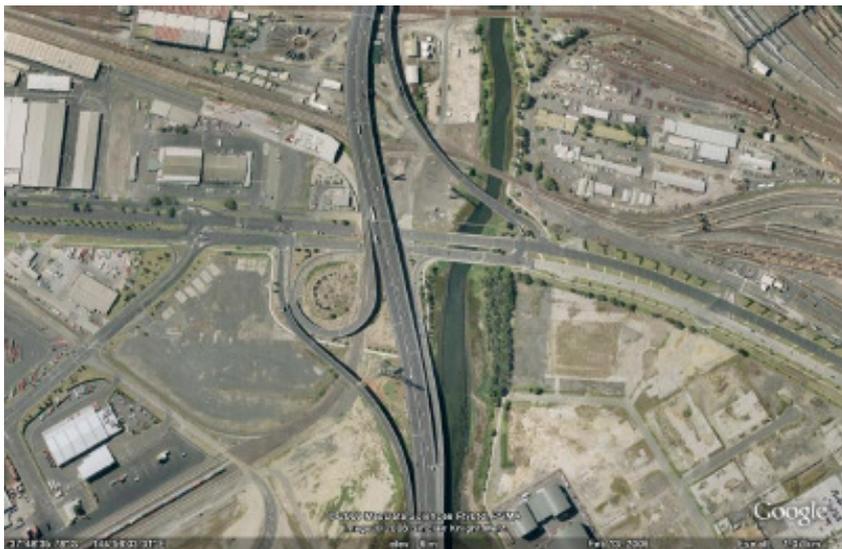
- Dynon Road, Kensington: outbound only;

**Figure 13: Dynon Road interchange**



- Footscray Road Docklands: bi-directional;

**Figure 14: Footscray Road interchange**



- West Gate Freeway, Port Melbourne: bi-directional.

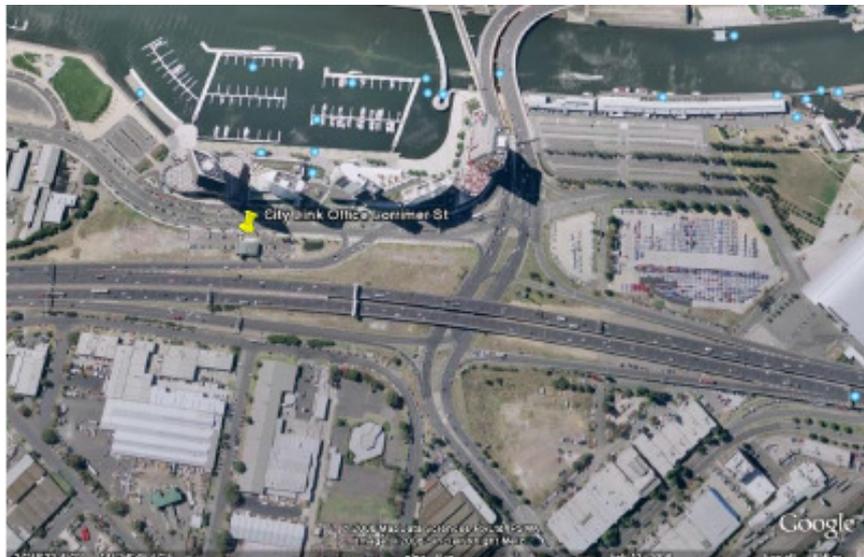
**Figure 15: West Gate Freeway interchange**



The Western Link ends in a junction with the West Gate Freeway, which is not tolled. The West Gate follows west to cross the Yarra over the West Gate Bridge, and also east. There are several interchanges from the Westgate between the Western Link end and beginning of the Southern Link. Travel between the end of the Western link and beginning of the Southern link exiting/entering these interchanges is untolled.

- Montague Street, Port Melbourne: bi-directional;

**Figure 16: Montague Street interchange**



- Kings Way, South Melbourne: eastbound exit, westbound entrance;

**Figure 17: Kings Way interchange**



- Power/Sturt Streets, South Melbourne: bi-directional (limited);

**Figure 18: Power/Sturt Streets interchange**



The freeway then officially becomes the Citylink “Southern Link” when it flows into the tolled tunnels: the eastbound Burnley Tunnel (resurfacing at the Barkly Avenue exit on the Monash Freeway), and the west-bound Domain tunnel (travelling under Batman Avenue on the Monash Freeway). Interchanges on the tolled section of the Monash Freeway are:

- Batman Avenue, Richmond: eastbound entrance, westbound exit to Batman Avenue, tunnel entrance westbound tunnel;

**Figure 19: Batman Avenue interchange**



- Punt Road (Boulton Parade/Harcourt Parade), Richmond: eastbound entrance (limited), westbound exit to Punt Rd (via loop);

**Figure 20: Punt Road interchange**



- Church Street, Richmond: eastbound exit ramp only;

**Figure 21: Church Street interchange**



- Barkley Avenue, Burnley: Tunnel exit. Eastbound exit from tunnel traffic and from Batman Avenue entered traffic. Eastbound tunnel traffic joins Batman Avenue traffic;

**Figure 22: Barkley Avenue interchange**



- Yarra Boulevard, Burnley: westbound entrance, westbound exit, eastbound entrance;

**Figure 23: Yarra Boulevard interchange**



- Toorak Road, Kooyong: bi-directional;



The Southern Link continues on as the Monash Freeway without tolls, eventually ending as the Princes Freeway 45km later, 5km west of Pakenham.

## Project costs

### Development cost timeline

**Table 2: development cost timeline**

Year	Cost	Description
1996	AUD 1.5bn (1993 dollar terms)	Basis of Allen Consulting CBA – Estimate prepared by VicRoads
1996	AUD 1.776bn	Transurban estimate in Prospectus
2000	Approx AUD 1.8bn	Disclosed in Auditors report
2006	AUD 2.2bn (2006)	Declared cost IEA Report.

## Construction costs

Predicted (in year of decision to go ahead):

- EES Southern A: AUD 590m; B: AUD 650m (approx); C: AUD 790;
- EES Western utilitarian bridge: AUD 255m (but not acceptable).

**Table 3: construction costs**

Construction cost	Design and Construct Contract	1,148
Capital equipment	Transponder purchase	51
	Operator start up costs	21
Marketing, financial and other	Contingency	57
	Initial financing costs	73
Development costs	Consultancy and sponsor recovery costs	63
	Legal and listing costs	13
	Initial marketing costs	5
	Corporate overheads and marketing (during construction) <sup>1</sup>	48
	Insurance (during construction)	22
	Capitalised interest expense (net of interest income)	76
	Equity infrastructure bond distributions	171
	Less: Interim operating revenue	(39)
	Add: Debt service reserve (initial funding)	67

Source: Transurban CityLink & CityLink Management, 1996

Land costs and agreed works on other roads joining CityLink were covered by Government, with the initial costs estimated at AUD 170m, and the total expended AUD 340m (Russell, 2000).

## **Project delivery**

**Table 4: project delivery**

Event	Date
Construction start	October 1995
Commencement of use	May 1996
Commencement of use	Aug 1999

## **Details of construction by road section**

Transurban's prospectus (Transurban CityLink & CityLink Management, 1996) noted road completion dates of April 1999 for Western Link and December 1999 for Southern Link. The information in this table is compiled from the changes made to the schedule in the Concession Deed and reported completion dates, the latest of which incorporated amendments to 8 August 1997. This document provided estimates of construction

<sup>1</sup> Includes a procurement fee of AUD 5m payable to the TOJV for procurement of the transponders and a Transponder distribution fee of AUD 2m payable to the operator.

milestones in terms of numbers of months from financial close. Thus the dates under 'actual' for construction start, and construction complete, and 'forecast' for commence use, represent recalculations of times based on the then completed financial close. Where available this information has been cross-referenced with public statements about commencement.

**Table 5: construction dates by road section**

Road Section:	Construction start		Construction complete		Commence use	
	Forecast	Actual	Forecast	Actual	Forecast	Actual
Western Link (Tulla)	May 96	Sept 96	Apr 99	Aug 99	Apr 99	Aug 99
Western Link (Viaduct)	Jan 97	Sept 97	Apr 99	Aug 99	Apr 99	Aug 99
Western Link (Bridge)	Sept 96	Sept 97	Apr 99	May 99	Apr 99	Aug 99 (no tolling)
Southern Link (Burnley Tunnel)	May 96	Apr 96	Dec 99	Dec 00	Dec 99	Dec 00
Southern Link (Domain Tunnel)	Apr 96	Apr 96	Dec 99	Apr 00	Dec 99	Apr 00 (with tolling)
Southern Link (Southbank interchange)	Oct 96	Nov 96	Dec 99	Dec 99	Dec 99	Dec 99
Southern Link (Punt Rd – Burnley)	Mar 97	June 97	Dec 99	Dec 99	Apr 99	Aug 99
Southern Link (Burnley – Toorak Rd)	Mar 97	Aug 97	Dec 99	Dec 99	Apr 99	Aug 99

## Main engineering features

### Details of engineering and construction

#### *Distance*

- Total distance of roadway 22km;
- Southern Link: 8.4km (east), 6.6km (west);
- Western Link: 12.2km;
- Total new road tunnel: 5km (two tunnels constructed, one in each direction 3.4km and 1.6 km respectively);
- Total new road elevated/bridge: 4.2km (Flemington to Bolte);
- Total length of existing road land level road improved: 8km (Tullamarine Freeway);
- Total length of elevated road improved: 5km (Monash Freeway).

#### *Tunnels*

- Two tunnels, Domain tunnel and Burnley Tunnel;
- Domain tunnel 1.6km, three-lane carriage way, carrying traffic west;
- Burnley tunnel 3.4km, three-lane carriage way, carrying traffic east;
- Both pass through sedimentary substrate under the Yarra River.

## Quantities

- Bolte Bridge

Two 140m concrete towers at the centre of two spans, each of 173m, with two further outside spans of 72m. A balanced cantilever structure composed of twin four-span box girders. Central 'goal posts' rest on an artificial island of 180,000 tonnes of quarry material, from 20 days of work by 500tonne bottom dumping barges. The central pier and goal posts are supported on 104 large diameter (1.2m) driven piles made of 2cm thick plate. They anchor to a depth of 55m. Each pile was capped with 650 tonnes of reinforced concrete.

- Elevated roadway western link

This has a length of 4.2km, with an additional 3.5km of ramps made up of 3,500 matched concrete segments, each weighing between 45tonnes and 80tonnes and pulled together with steel tendons. All 3,500 segments are different. To assist with the lack of stability of Coode Island Silt, ramps are constructed on lightweight fill of polystyrene blocks to prevent shifting.

- Tunnels

Driven tunnels were made in an unusual ellipsoid shape, to accommodate three lanes of traffic instead of two. The longer tunnel was driven from a central vertical shaft. This shaft had to be frozen to prevent water seepage during tunnelling. Cut and cover methods were also used for the sections closer to the surface, and a coffer dam process was used for the shorter tunnel to cross the river.

- Bridges and viaducts

- Western Link:

- upgrade to the Tullamarine Freeway between Bulla Road and Flemington Road (now eight lanes);
- a six-lane elevated road through West Melbourne;
- connecting bridge over the Yarra River to the West Gate Freeway (Bolte Bridge).

- Southern Link:

- two three-lane tunnels, the Burnley and the Domain Tunnels (3.4km and 1.6km long, respectively);
- upgrade to the previous freeway (now five and six lanes);
- increasing clearance under, and width of five bridges on Monash Freeway (none were demolished). Church St Bridge, Cremorne Railway Bridges, Gibdon St Bridge, MacRobertson Bridge and Yarra Boulevard Bridge.

- Other features

- the existing façade of the Yarra Boulevard maintained and repaired and Gibbon Street Bridges;
- 3.5km of ramps on and off the Western Link;
- the Gateway, an entrance to the city, comprising a yellow curved concrete sound wall, a 70m yellow beam jutting over the main carriageway at an angle of 30 degrees, 39 red steel columns and a 300m long skeletal galvanised sound tube to reduce noise;

- more than 2 million trees, plants and shrubs along the Tullamarine Freeway;
- new cycle and pedestrian paths along both Western and Southern links;
- a radio rebroadcast system operating in the CityLink tunnels, allowing CityLink to override the signal on car radios with safety messages or specific emergency instructions;
- automatic incident detection and closed circuit TV monitoring systems;
- the Lorimer Street Customer Service Centre.

The EES for the Western Bypass discusses the impact of staging construction in part to Footscray Rd and then to West Gate, including the traffic implications. No account is taken of the possible diversionary effects of tolls. "Should a direct toll be used to fund the bypass, the expected volumes would be lower due to some traffic diverting to 'free' routes". The process of staging would put substantial pressure on Footscray Rd and make Docklands less appetising for development. This was one of the main reasons why the second stage of the bypass was constructed at the time even though traffic models did not support it (VicRoads, 1994e).

The bedrock is 60m below the Yarra River, and near the surface is Coode Island Silt (soft) covered with fill. There are significant amounts of water in the substrate. Under the CAD is basalt. This meant the project would need large diameter bored piles for elevated sections. There were limited prospects for embankments (2m), excavations would require support and diaphragm walls, the water table would need to be dealt with, and pavements below the crust of fill would require special treatment (VicRoads, 1994e).

#### Details of main contracts from Transurban Prospectus (1996)

##### *Design and Construct Contract including amending agreements.*

- Parties: Company, Trustee, Manager, Transfield Construction, Obayashi.
- Key dates and amendments: 30/10/95, 8/12/95, 12/2/96.
- Transfield Construction and Obayashi agree to design and construct the Link on behalf of the Company and the Trustee.

##### *Deed of Guarantee and Indemnity under the Design and Construct Contract.*

- Parties: Company, Trustee, Transfield Holdings.
- Key dates and amendments: 30/10/95.
- Transfield Holdings provides a guarantee and indemnity to the Company and Trustee in relations to performance by Transfield Construction of its obligations under the Design and Construct Contract.

##### *State Works Design and Construct Contract and Co-ordination Deed.*

- Parties: State, Company, Trustee, Manager, Transfield Construction, Obayashi.
- Key dates and amendments: 9/2/96.
- Transfield Construction and Obayashi agree to design and construct certain State Works on and around the Link and the Project Vehicles agree to co-ordinate integration of those State Works with the construction of the Link.

### *Technical Assistance Agreement*

- Parties: Operator, Transroute.
- Key dates
- Transroute agrees to provide technical assistance to the Operator to enable the Operator to carry out its obligations under the Operation and Maintenance Agreement.

### *Deed of Guarantee and Indemnity for the Operator's Obligations*

- Parties: Transroute, Transfield Holdings, Company.
- Key dates and amendments: 12/2/96.
- Transroute and Transfield Holdings provide a guarantee and indemnity to the Company in relation to the performance by the Operator of its obligations under the Operation and Maintenance Agreement. Transroute and Transfield Holdings give the Company undertakings in relation to subscriptions for capital in Translink Investments Pty Ltd.

### *Operator Performance Bond*

- Parties: Company, Issuer.
- Key dates and amendments: before or nine months before Western Link opens.
- Issuer will hold a bond at the Company's disposal in connection with the Operator's liabilities under the Operation and Maintenance Agreement.

The Transurban prospectus provides the following details of the contractual arrangements it made to deliver the project (Transurban 1996):

Details of design will only be completed during the construction phase and will be subject to approval of the Independent Reviewer. Kinhill Engineers has been engaged by Transurban to provide independent expert comment on engineering and design. A Link control site was also constructed.

Concession Deed is the key legal agreement covering toll levels, risk allocation, termination events, the concession period and concession fees:

“the project vehicles have largely subcontracted responsibility for these items the obligations and responsibilities to other parties (primarily through the design and Construct and Operation and maintenance agreement), the project vehicles remain primarily liable to the state.” (p17)

The State can terminate the concession deed on 25<sup>1/2</sup><sup>th</sup>, 27<sup>th</sup>, 29<sup>th</sup>, 31<sup>st</sup> or 33<sup>rd</sup> anniversary after the Date of Completion if the Notional Initial Equity investors have achieved a real after tax rate of return greater than 17.5% and all of the Debt Facilities (or any other debt facility taken out prior to the completion of the entire Link) have been fully repaid. Otherwise the concession expires in November 2033 (Transurban CityLink & CityLink Management, 1996).

Design and construction was under TOJV, managed by a Design and Construct contract which includes the supply and commissioning of an electronic tolling and traffic management system. The contract had a fixed price of AUD 1.148bn and a fixed time frame (subject to extension only in limited circumstances and permitted adjustments to the contract price). Transfield Construction was guaranteed by Transfield Holdings. Transfield Construction and Obyashi have joint and several obligations to the Project Vehicles (Transurban CityLink & CityLink Management, 1996).

State works included the widening of Tullamarine from Moreland Rd to Bulla Rd, including modifications to ancillary roads, pedestrian bridges, bicycle paths, enhancement of noise and landscaping, rail infrastructure modifications, modification to structures associated with SEA, rectification of certain specified imperfections in existing structures and Agreed Traffic Management Measures. The Project Vehicles were to procure design, construction and integration of State Works with the same rights and obligations as the concession deed. Completion was a condition of the deed. Agreed traffic management measures were to follow completion of the Link. TOJV were to complete the works and be paid by the state (Transurban CityLink & CityLink Management, 1996).

Key points of the design and construct contract were:

- liquidated damages would be payable by TOJV if the project was not completed by the relevant date for the loss of projected net revenue if project is late;
- the liability period allows for TOJV to rectify faults for 12 months, and contractual liability has been extended to ten years;
- a bonus payment of 65% of net traffic revenue would be paid if the project was completed early. Investors receive the balance;
- security of 15% of the Western Link subcontract price, and 15% of the Southern Link subcontract price plus 15% of state works is to be provided by TOJV by way of letter of credit of bank with a credit rating of A or a performance bond of company (1/2 Southern link security) with AA rating. The total security value is AUD 0.18bn. Debt providers have first cut at this security (Transurban CityLink & CityLink Management, 1996).

The role of the independent reviewer was to: undertake reviews and checks to verify conformity with the Project Scope and Technical requirements; provide monthly certificates as a basis of payment of progress claims; review and report on variations; provide a certificate of completion (Transurban CityLink & CityLink Management, 1996).

TOJV subcontracted the tolling system to Translink Systems, a subsidiary of Translink Investments Pty Ltd (50% owned by the Transfield Group and 50% by Transroute). Specifications include minimum vehicle recognition rates for vehicles with and without a functioning transponder. TOJV was to supply not less than 350,000 transponders by the date of completion of the Western Link, and 250,000 more for the Southern Link. The Company bore the risk that the price would be higher than expected or that more were required (Transurban CityLink & CityLink Management, 1996)

“in order to mitigate the overall level of construction risk the TOJV has entered into a subcontract for the Western Link. Boulderstone Hornibrook Engineering Ltd has been awarded contract. Boulderstone is responsible for the design construction and commissioning of the entire western link civil works and the component of the state work that relates to the Western Link. Boulderstone is guaranteed by parent company Bilfinger

+ Berger Baukiengesellschaft” (Transurban CityLink & CityLink Management, 1996, p23).

Operations have been subcontracted to Translink Operations P/L, a wholly owned subsidiary of Translink Investments, through an Operation and Maintenance Agreement. The Operator is responsible to the Company for overall operation and ongoing minor maintenance of the Link including electronic tolling and the traffic management system. There are two phases of obligations: construction and operation (Transurban CityLink & CityLink Management, 1996).

During construction, the Operator’s obligations are: to develop functional specifications for electronic tolling and TMS and the link control site; to prepare manuals and recruit and train staff. It must develop an effective marketing and distribution plan for Transponders and provide an experienced general manager (Transurban CityLink & CityLink Management, 1996).

During operation it is responsible for: effective marketing; permitting smooth and uninterrupted flow of traffic in normal conditions; collecting tolls; minimising disruption to traffic in event of incidents; undertaking routine maintenance such as potholes, cracks drains, lights etc; undertaking preventative maintenance to plant and equipment; advising the Company on major repairs or improvements; liaising with VicRoads on the maintenance of entrances and exits to the Link. It will enter into Technical Assistance Agreements with Transroute and Transfield, to include obligations to provide experienced employees to the operator when required (Transurban CityLink & CityLink Management, 1996).

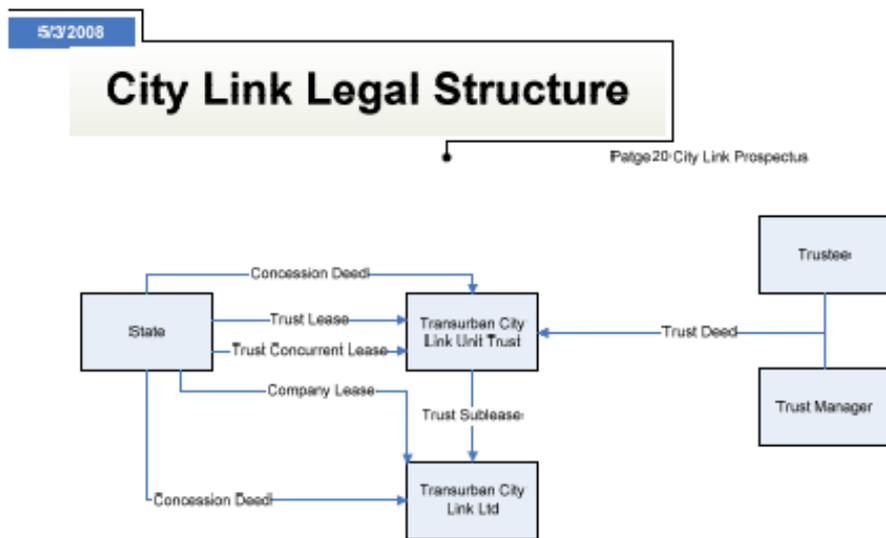
The Company is responsible for maintenance of resurfacing of carriageways, major repairs to structures and noise barriers, and replacement or refurbishment of plant and equipment with medium or long life duration (Transurban CityLink & CityLink Management, 1996).

The Operator will be paid a fixed minimum fee plus a variable amount based on the volume of traffic. Fees escalate with reference to CPI and labour costs. Incentives are paid if traffic throughput or recovery of payments exceeds benchmarks. Penalties are due if it fails to maintain the tolling system to standards, or if the amount of revenue lost exceeds 1% (Transurban CityLink & CityLink Management, 1996).

The Operator’s liability is limited to AUD 10m except where wilful misconduct occurs (Transurban CityLink & CityLink Management, 1996).

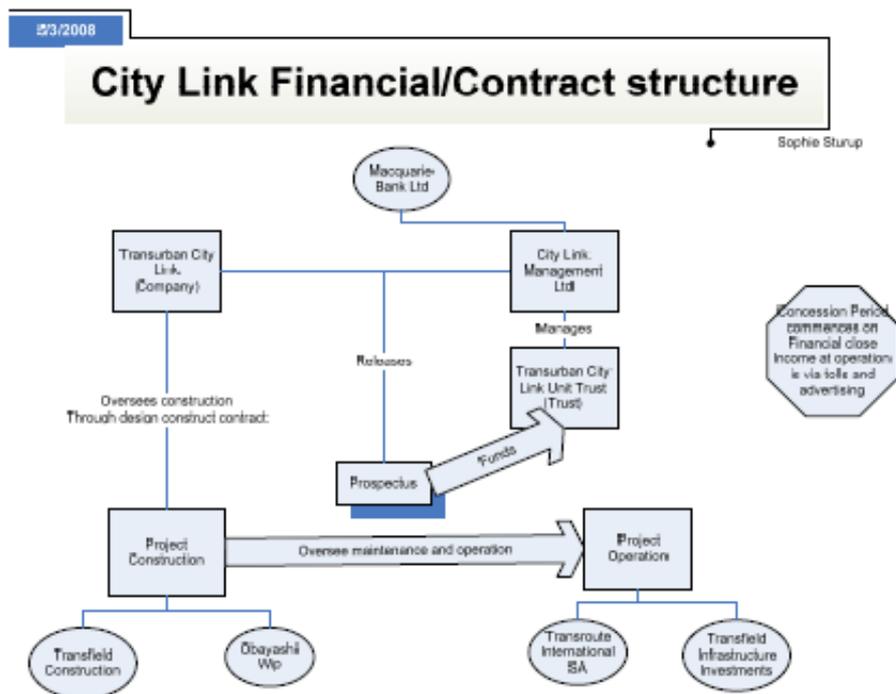
Transroute is a member of the French Secautroute Group, and a joint subsidiary of the Caisse des Depot et Consignation and the Group of the Seve Toll Motorway Concession Companies (Transurban CityLink & CityLink Management, 1996).

Figure 24: diagram of main contract – legal structure



Source: Sturup, 2008

Figure 25: diagram of main contract - financial/contract structure



Source: Sturup, 2008

Engineering key facts and figures

The following is a description of the project as found in the Project Scope and Technical Requirements ("Project Scope and Technical Requirements", 1995, p1).

“The Western Link will be a six-lane freeway standard link connecting the Tullamarine Freeway to the West Gate Freeway and the upgrading of the Tullamarine Freeway to provide eight traffic lanes between the Flemington Rd interchange and Bulla Rd.

Three sections:

1. Tullamarine Freeway Upgrade from chainage 10000 (north of Bell St) to north of the Flemington Rd interchange;
2. Section one from the Flemington Rd interchange to Footscray Rd;
3. Section 2 from Footscray Rd to the West Gate Freeway at Graham St.

The Southern Link will be a six-lane freeway standard link connection with the West Gate Freeway east of Kings Way to the South Eastern Arterial, incorporating tunnels under St. Kilda Rd, Kings Domain, and Yarra River and upgrading the South Eastern Arterial to the eastern limit of the existing elevated freeway west of Toorak Rd.

Also three sections:

1. Domain and Burnley Tunnels including interchange works at Southbank, Punt Rd and Burnley;
2. South Eastern Arterial works from Punt Rd to Burnley;
3. South Eastern Arterial works from Burnley to the eastern limit of the elevated structure west of the Toorak Rd Interchange.

The link will be tolled utilising a system which will not impede the flow of traffic”.

This document contains the Project Scope, Technical Requirements and the quality management arrangements for the project.

“The technical requirements are the mandatory requirements of the State in relation to the link (part K)”: these requirements override anything in the project scope and the State does not warrant that they match up, nor that any design based on the project scope will meet the technical requirements. The project proponent is entirely responsible for that (p2).

In the detailed design, changes can be made to the project scope, but only if they comply with technical requirements, are consistent with the “design intent in the project scope”, and do not lessen the standard or requirements (p3).

Part K: Technical Requirements - these are the requirements which must be met (p145-172).

The Link must comply with standards and laws even of municipal councils which by virtue of the project legislation might not apply to the Company and Trustee.

s.1.2.1 (a) Designates minimal cross sectional capacities of the road:

- Western Link Brunswick Rd to Moreland Rd 170,000
- North of Moreland Rd 130,000
- Ramps various 10 – 20,000
- North of Flemington Rd IC 160,000
- Racecourse Rd to Dynon Rd 130,000
- Footscray Rd To WGF 125,000
- Ramps various 10 – 45,000

- Note at Westgate north to east 35,000
- East to north 45,000
- Southern Link under Kings Domain 160,000
- West of Toorak Rd 180,000
- Ramps 10 – 34,000 with larges two way ramp at Batman Avenue (p146).

s.1.2.1 (b) the Company is to carry out its own traffic modelling and adopt that where it exceeds minimum capacities (p146).

It must meet operational performance standards and “not present drivers with a different traffic environment” (p147).

Local access and pedestrian access must be maintained. Noise must be limited to 63 dB(A)L. The Company must negotiate with the regulatory authority over monitoring.

s.2 The Company must comply with technical standards and references in the hierarchy of VicRoads Tech Refs, AUSTRROADS/NAASRA Tech Regs, Australian standards, international standards. Others used must be approved by the State.

### s.3.1.Geometric Design

Speed must be 100km/h for Western Link, 80km/h Southern Link minimum. Minimum horizontal curve radius 500m. Max vertical grade 5%, absolute max is 7% but not for more than 200m. Stopping sight distance must meet design speed requirement, traffic lane widths minimum 3.5m. Shoulder width must not be less than given left for roadway is 3m, right on at grade 1m, elevated road 1m and Tullamarine Freeway 2.5m. Pedestrian walkways in tunnels minimum width 800mm. Cross bridges changed must be designed to retain the same structural form and appearance. The pedestrian overpass at Flemington Rd must have a minimum deck width of 4m. The fire resistance rating of tunnels and structures must be not less than two hours. The pavement must be designed for 30 years, uniform thickness and wearing a course layer of 30mm, except where meeting at grade intersections where a dense-graded asphalt must be provided flush with the existing one. Tunnels must be designed to avoid inundation in a 1-in-100 year flood, SEA to provide 1-in-20 year flood protection from the Yarra River. Landscaping, shared pathway and noise walls are to be documented in design documentation, including maintenance of existing vegetation, replacement of some vegetation, details for materials colours and finishes of various elements including gateway, paths and ventilation towers. Must meet OHS requirements and codes. Must be responsible for all construction matters – such as dealing with service agencies. Must manage traffic around the works through preparation of plans and only with agreement of VicRoads. Must minimise disturbance from construction, especially monitoring ground vibration and settlement, and monitor nearby buildings for up to a year after construction. Must prepare an environmental management plan and restore areas affected by building. Must implement traffic counting and weighing stations and give access to VicRoads. The Company will be responsible for managing incidents and will install closed circuit TV, traffic incident detection system, emergency telephones, variable message sign and tunnel annunciator system. An environment monitoring system must be installed to monitor air quality in tunnels and exhaust vents, visibility in tunnels, water levels in tunnel drainage systems. The Company must also monitor the quality of discharged water and other waste products occurring from incidents.

At the end of the concession period the conditions of the components of the link must be:

- Bridge and tunnels 80 years;

- Road pavement 20 years;
- Road surfacing five years;
- Electrical and mechanical equipment 20 years;
- Tunnel finishes 50% of product life;
- Communications and control systems ten years;
- Renewable items 50% of life.

There are also maintenance requirements for pavements (potholes, wheel rutting, cracks, etc), road markings, lighting, signs and landscape.

Part L Independent reviewer appointed under Part L s.2.1. Also appointed a Quality assurance team s.2.2 and design consultant s.2.3., both are appointed at cost of company. Also a Proof Engineer – for those elements with public safety s.2.4.1. Also must put in quality control system to AS/NZS ISO 9001 ("Project Scope and Technical Requirements," 1995).

Source: Melbourne CityLink – Project Scope and Technical Requirements Revision 3  
Legal\101539540.3

## D PROJECT TIMELINE

### Project timeline

Month	Year	Key Decision/Event
	1969	Metropolitan Transportation Plan recommended link from Westgate Bridge to SE Freeway at Burnley
	1971	Melbourne and Metropolitan Board of works proposed tunnel under Domain: shelved in 1973
	1987	Melbourne Arterial Road Access Study and National Roads Strategy – Victoria (NATROV) studies advocated southern and western links
	1989?	Minister declares Upfield Railway would be closed and converted to light rail on Elizabeth and Royal Parade
	1989	Environmental Effects Statement created for section 1 Western Bypass; Link from Footscray Rd to West Gate. Freeway not considered likely for 20 years.
	??	Docklands Task Force formed and suggested low Yarra River crossing to allow trains from Webb Dock.
	1991	Central Area Transport Strategy (CATS) supported Western Link and recommended resolution of Southern Link in an environmentally sensitive manner
	1991	Docklands Authority formed
May	1991	State Government puts out guidelines for seeking private sector investment in the building of major infrastructure. Interest is sparked in Western bypass from the private sector
March	1992	Government announces that private sector will be invited to be involved in the building of the Western and Southern bypasses.
May	1992	Kirner Government announces Upfield Railway will be kept and upgraded
May	1992	Kirner Government calls for expressions of interest to build, own and operate the Western and Southern bypasses
June	1992	Docklands Development Report released (advising requirements to reduce traffic in area, and change arrangements for Port of Melbourne so low crossing no longer acceptable)
Aug	1992	Environmental Effects Statement (EES) process begins.
Sept	1992	Transurban and CHART Roads shortlisted as consortia to build bypasses.
Oct	1992	New Kennett Government undertakes review of the status of work to date, including financial and economic aspects of projects. Recommended further work on physical form, and cost estimates.
	1993	VSTS (Victorian Strategic Transport Study) supported cross town connections
Jan	1993	Announcement Upfield Railway will be closed – but decision delayed until finalization of EES for bypasses
April	1993	Kennett Government review concludes, work on EES and schemes commences at VicRoads
May	1994	Government decides to proceed with the project and invites the two short-listed consortia to submit bids.
1 July	1994	Premier announces the southern and western bypasses to start next year and be built by 2000.
Aug	1994	Environmental Effects Statements completed and put on public display
Sept	1994	Project brief issued to the two consortia.
Oct	1994	EES Panel hearings begin.
	1994	'Melbourne CityLink' replaces Southern and Western bypasses.
Dec	1994	Infrastructure Borrowings Act 1994 (cth) proclaimed giving tax advantages to

Month	Year	Key Decision/Event
		infrastructure projects
Dec	1994	Creation of Melbourne CityLink Authority by Act of Parliament.
31 Jan	1995	Submissions received from two consortia.
Feb	1995	Panel report on public inquiry into the EES – acknowledged that the two links were the best ways of achieving the project's objectives and that the process was satisfactory.
	1995	Government decided to widen Tullamarine Freeway and that an EES was not required. A planning process was undertaken including community consultation
May	1995	Minister for Roads and Ports advised Minister for Planning that no new issues were raised in the public inquiry that required significant alterations in VicRoads proposals.
29 May	1995	Premier announces that Transurban is the preferred consortium and that the project will proceed on the basis of direct tolls, collected electronically.
Jul	1995	Transurban and the State Government sign a memorandum of understanding.
Oct	1995	negotiations stall between Transurban and State. Coalition Government issues ultimatum that negotiations will be re-opened with CHART roads.
20 Oct	1995	Signing of Concession Deed between the State and Transurban.
Dec	1995	Parliament passes Melbourne CityLink Act, ratifying the Concession Deed.
Jan	1996	Sinclair Knight Merz, in association with Parsons Brinckerhoff and Davis Langdon Australia, appointed as the Independent Reviewer.
4 Mar	1996	CityLink contract reaches Financial Close.
March	1996	Transurban listed on Australian Stock Exchange. Commencement of access admit excavation at Burnley
May	1996	Commencement of CityLink construction. Official ground breaking of project. Commencement of Tullamarine Freeway works. Commencement of shaft excavation at Swan St
June	1996	Commencement of piling operations for the elevated viaduct construction
Oct	1996	Commencement of work on Southbank interchange
Jan	1997	Commencement of superstructure works on Western Link Commencement of Yarra River Bridge piling operations (including bridge transition piers)
Mar	1997	Melbourne CityLink Information Centre opened. Work on South Eastern Arterial carriageway, Punt Rd to Burnely commences. Modification to MacRobertson Bridge commences. Modification to Gibdon St overpass commences. Modification of Yarra Boulevard bridge overpass
1 Apr	1997	Saab Combitech of Sweden wins contract to supply CityLink tolling system
Apr	1997	Completion of cover to tunnels in Grant St (between St Kilda Rd and Wells St). Construction commences of St Kilda Rd tunnels
10 Jun	1997	EPA issues Works Approval for tunnel ventilation system
June	1997	Commencement of upgrade of Monash Freeway between Punt Road and Burnley. Completion of excavation of shaft to tunnel level in Army land at Swan St
30 Jun	1997	State Government announces decision to proceed with an extension of Exhibition St joining Batman Ave to connect to CityLink.
Sept	1997	Completion of Yarra River Bridge piling operations (including bridge transitions piers) and towers of Bolte Bridge.
Oct	1997	Construction at City end of Exhibition St commences.
Nov	1997	Awarding of contract to NEC Australia for the assembly of electronic tags for CityLink.
Jan	1998	Commencement of construction of the International Gateway.
28 Jan	1998	Breakthrough achieved in Burnley Tunnel between St Kilda Rd and Swan St

Month	Year	Key Decision/Event
Feb	1998	Diversion of traffic onto new northbound ramps at the Flemington Road Interchange to enable construction of the section of Western Link over Mount Alexander Road. Commence either road lowering works beneath or raising of Cremorne Railway overpass. Commence either road lowering works beneath or raising of Church Street
Mar	1998	Breakthrough in Burnley Tunnel between Swan St and Burnley. Completion of Yarra River Bridge Piers, including bridge transition piers
Jun	1998	Completion of Burnley tunnel excavation works
22 Jun	1998	Transponder trials begin on Tullamarine Freeway.
Aug	1998	Commencement of construction of the International Gateway architectural features
Nov	1998	Public release of Transurban toll products. Completion of the widening of the Pascoe Vale Road Overpass
Dec	1998	Completion of Tullamarine Freeway bridges over the railway line and Moonee Ponds Creek at Bell Street interchange. Completion of widening of the Tullamarine Freeway carriageways from Pascoe Vale Road to Bulla Road
Feb	1999	Completion of Yarra River Bridge superstructure, excluding deck finishing's and above road level works. Breakthrough of driven Domain tunnel into chamber on southern bank of Yarra River
8 Feb	1999	Commencement of the opening of toll accounts.
18 Feb	1999	State Government announces taxi arrangements and tolls for CityLink.
Mar	1999	Completion of Power St overpass at Southbank
29 Mar	1999	First e-TAG delivered to a CityLink customer
Apr	1999	Tullamarine Freeway complete and available to take traffic for opening of Western Link. Western Link Section 1 complete and available to take traffic for opening of Western Link. Western Link Section 2 complete and available to take traffic for opening of Western Link. Complete either road lowering works beneath or raising of Cremorne Railway overpass. Complete either road lowering works beneath or raising of Church Street overpass
17 May	1999	Transurban announces it has assumed full control of all customer service operations for CityLink.
30 May	1999	Public walk-over of the Bolte Bridge.
15 Aug	1999	Western Link opened to traffic -without tolling.
25 Oct	1999	Untolled opening of City end of the Exhibition St Extension (Flinders St to Swan St).
Dec	1999	Completion of construction of Sturt St overpass at Southbank. Completion of Domain tunnel and available to take traffic for opening of Southern link. Completion of Burnley tunnel available to take traffic for Southern Link. Completion of Punt Road to Burnley section and conversion of SEA to five lane operation, available for traffic for Southern Link opening. Completion of Burnley to West of Toorak Road section SEA, available for traffic for Southern Link opening
15 Dec	1999	Bracks Government announces agreement with Transurban to introduce improvements to customer products.
16 Dec	1999	State Government introduces legislation to protect CityLink users against tolling errors and misuse of private information.
24 Dec	1999	Additional outbound lane of Monash Freeway opened to traffic.
3 Jan	2000	Tolling commences on Western Link.
16 Apr	2000	Domain Tunnel and inbound lanes of Monash Freeway open untolled.
26 Apr	2000	Tolling commences for Domain Tunnel and inbound lanes of Monash Freeway
1 Jul	2000	Inbound Punt Rd end of the Exhibition St Extension tolled.

<b>Month</b>	<b>Year</b>	<b>Key Decision/Event</b>
Sept	2000	Installation of speed cameras in the Domain Tunnel.
17 Nov	2000	Review of emission control technology on CityLink tunnels, conducted by Mr Bernard Bongiorno QC.
16 Dec	2000	Public walkthrough of the Burnley Tunnel
22 Dec	2000	Burnley Tunnel opens to traffic untolled.
Dec	2000	CityLink fully open
28 Dec	2000	Tolling commences for Burnley Tunnel.
January	2001	Tolling commences.
19 Feb	2001	Failure in an arch section of the Burnley Tunnel; tunnel closed for one week.
9 Mar	2001	MCLA commences review of the legislative and contractual arrangements of Transurban and its contractors in terms of safety and traffic management.
17 Jun	2001	Repairs to Burnley Tunnel operationally complete; right-hand lane reopens to traffic.
19 Sept	2001	Announcement by the State Government of agreement to release Transurban from 'single purpose entity' restrictions.
5 Aug	2002	Implementation of interoperability arrangements between CityLink Melbourne Ltd and Queensland Motorway Ltd.
8 Nov	2002	Establishment of water treatment plant to recycle water for groundwater recharge.
Dec	2002	Agreement between CityLink Melbourne and NSW RTA on interoperability arrangements for Sydney Harbour Bridge and Sydney Harbour Tunnel.
April	2004	Auditor General Special Review tabled in Parliament
17 Jun	2004	Statutory functions for managing CityLink passed to VicRoads

## E PROJECT FUNDING

### Introduction

#### Forecast cost at beginning of project

Project costs	AUD m
Design and Construct Contract	1,148
Contingency	57
Initial financing costs	73
Consultancy and sponsor recovery costs	63
Legal and listing costs	13
Initial marketing costs	5
Corporate overheads and marketing (during construction) <sup>2</sup>	48
Insurance (during construction)	22
Operator start up costs	21
Transponder purchase	51
Capitalised interest expense (net of interest income)	76
Equity infrastructure bond distributions	171
Less: interim operating revenue	(39)
Net project cost	1,709
Add: debt service reserve (initial funding)	67
Total funding requirement	1,776

Source: Transurban CityLink & CityLink Management, 1996

The Government did incur expenses in gaining agreement for the project. These costs were associated with purchase of land, administration and works agreed to be done on roads connecting to CityLink. Thus while they were incurred in reaching agreement on the project they were not specifically project costs. The total expenditure by the State as found in 2000 was AUD 346m. The initial estimate for this work was AUD 170m, agreed to in the concession deed, and AUD 176m was incurred subsequently (Audit 2000) (Russell, 2000).

#### Cost to date declared at end of project

Total AUD 2.2bn (2006 prices).

Equity – total AUD 0.51bn (actual 2006). The figures below allow for equity of up to AUD 0.61bn to be raised).

- Initial public issue AUD 63.5m unit holders in Transurban Trust;
- Institutional issue AUD 0.2065bn;
- Transfield Obayashi contributed AUD 0.1bn;
- Balance from private investors AUD 0.185bn.
- Deferred equity contributed by Obayashi and Transroute AUD 55m.

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<sup>2</sup> Includes a AUD 5m procurement fee payable to the TOJV for procurement of the transponders and a AUD 2m transponder distribution fee payable to the operator.

### *Project debt*

Bank debt AUD 1.3bn by syndicate of banks (actual 2006):

- Tranche A: AUD 1.2bn, used primarily during construction with 17-year maturity;
- Tranche B: AUD 97.5m, provided additional liquidity for the operation phase of project.

Subordinated debt: Total AUD 51m (actual 2006), designed to finance the purchase of transponders used for electronic tolling. The debt was secured but subordinate to all senior debt obligations of the borrower.

### *Other sources*

CPI Bonds: AUD 0.35bn provided long term borrowings.

Hedging to protect against adverse interest rate movements and outstandings under the project debt facility – via a series of floating and fixed interest rate swaps (Infrastructure Partnerships Australia, 2006).

The website also notes that the private developer intends to repay project debt in accordance with lending documents and that equity investors will derive at least the base-case equity return (VicRoads, 2008b).

Notes Vicroads website project overview page available at <http://www.vicroads.vic.gov.au/Home/RoadsAndProjects/RoadProjects/InnerCity/CityLink/ProjectOverview.htm> accessed on 2 Jan 08

## **Background to funding**

The EES Summary notes “private investment on the scale required to develop the links also represents an investment that would be unavailable for the public transport system or other energy saving initiatives and can consequently be seen as an opportunity cost” (VicRoads, 1994c, p46).

## **Revenue**

### Prediction of revenue (in year of decision to go ahead)

Toll revenue is calculated based on 320 days annualisation, and allowing for motorists who travel free, assuming 99% efficiency for toll collection. The Technical Scope and Specifications for the project require 99.9% efficiency for those with transponders and 90% for those without (Allen Consulting Group Pty Ltd et al., 1996).

“Proposals submitted by potential ETTM equipment suppliers and the results of recent overseas trials suggest that, with up to two years available for further development, there should be no technical reason why the best equipment then available should not meet the technical specification” (Transurban Prospectus 1996, p44).

**Table 6: Toll prices in 1995 March quarter (AUD)**

<b>Toll Zone</b>	<b>Motor Cycle</b>	<b>Car</b>	<b>LCV</b>	<b>HCV</b>
1	0.4	0.8	1.3	1.5
2	0.4	0.8	1.3	1.5
3	0.5	1	1.6	1.9
4	0.5	1	1.6	1.9
5	0.4	0.8	1.3	1.5
4/5	0.9	1.8	2.9	3.4
6	0.4	0.8	1.3	1.5
Cap day	1.5	3	4	4
Cap night	1.5	3	3	3

Estimated revenue for 2001 was AUD 0.187bn, for 2011 AUD 0.22bn. The contributions by class were expected to stay constant at 70% cars, 22% LCVs and 8% HCVs. Assumptions included an increase in actual tolls by 4.5% pa for the first 15 years and 4% pa thereafter, and inflation of 4% pa (Transurban CityLink & CityLink Management, 1996).

Six toll zones:

- Tulla (Moreland and Brunswick) (Zone 1);
- Western link section 1 (Racecourse and dynon) (Zone 2);
- WL section 2 (Footscray Rd and Westgate) (Zone 3);
- Domain (Zone 4);
- Burnley Tunnel (Zone 5);
- SEA (punt to Burnley) (Zone 5);
- SEA (Burnely to Toorak Rd) (Zone 6).

### **Funding key stages**

Key dates:

- Predicted latest public offer closing date 22 March 1996
- Target public offer closing date 28 Feb 1996
- Target financial closing date 29 Feb 1996
- Actual financial close 4 March 1996
- Target date for issue of parcel certificates 7 March 1996
- Target date for listing (subject to listing approval) 14 March 1996.
- Actual date listed March 1996

(Transurban CityLink & CityLink Management, 1996).

Funds were raised in accordance with the table presented in 'Project Funding Introduction'. A contingency of AUD 57m was factored into the projects costs, the finance plan and the directors' financial forecasts. AUD 32m was for various project cost items provided by debt providers. AUD 25m would be available to meet any shortfall in projected revenue from the opening of the Western Link. Drawdowns under the Project Debt Facility for contingency are subject to the approval of the Debt Providers (Transurban CityLink & CityLink Management, 1996).

Equity was to be raised through a public issue of AUD 63.5m, and an institutional offering of AUD 0.2065bn. AUD 0.185bn was to be raised through direct subscriptions as follows:

Direct subscription entity AUD m:

- |   |    |
|---|----|
| • Transfield Infrastructure Investments P/L | 50 |
| • Hastings Fund Management P/L              | 40 |
| • Commonwealth Management Services Ltd      | 30 |
| • Infrastructure Investments Ltd            | 30 |
| • AIDC Ltd                                  | 20 |
| • Macquarie Corporate Finance Ltd           | 15 |

Deferred equity included AUD 50m from Obayashi and AUD 5m from Transroute, committed at financial close but not paid until 45 months after (Transurban CityLink & CityLink Management, 1996).

The initial equity was subscribed in AUD 500 parcels, with 499 Equity Infrastructure bonds at AUD 1 each, and a share in the Company issued at 1c, and units in the Trust issued at 99c (Transurban CityLink & CityLink Management, 1996).

At 45 months the equity infrastructure bonds will be redeemed (to the extent of face value) from a drawdown under the Infrastructure Note Facility. Redemption proceeds from each bond will be automatically subscribed for a stapled security which is one share and one unit. Bonds may also be redeemed if there is a default. Will be redeemed at minimum of AUD 1 or if greater the issue price plus CPI indexation over the term of issue, or the average market value of a Parcel in the month prior to the maturity date divided by 500 (Transurban CityLink & CityLink Management, 1996).

The debt structure includes a core Project Debt Facility supported by a CPI Bond Facility, an Infrastructure Loan facility and Infrastructure Note Facility and a subordinated facility to fund the acquisition of the initial transponders (Transurban CityLink & CityLink Management, 1996).

On financial close the AUD 0.35bn CPI bond facility would be fully drawn and the proceeds placed on deposit. Prior to the Date of Completion, funds drawn under the CPI Bond Facility would be secured by cash and then bank guarantee under the Project Debt Facility. Drawings were progressively made against the Infrastructure loan facility to fund expenditure classified as eligible infrastructure expenditure. For each drawdown, the equivalent amount of cash was placed on deposit as security. The Company would source the cash from the Trust by way of subordinated loan. The Trust would source funds from drawdowns under the Project Debt Facility. Six months prior to completion of the Western Link, drawdowns would be made on the transponder financing facility (Transurban CityLink & CityLink Management, 1996).

On completion of construction, the bank guarantee securing the CPI bond facility would be withdrawn and the CPI bond Facility would rank *pari passu* with Project Debt Facility.

The transponder funding facility would be subordinated and repaid by the end of the sixth year. Funds provided under the Infrastructure loan facility were intended to remain in place until the ninth anniversary of financial closing and repaid from the cash held as security (Transurban CityLink & CityLink Management, 1996).

On the date of redemption of the Equity Infrastructure Bonds the AUD 55m of deferred equity funding would be subscribed and the proceeds used to complete the funding of the

debt service reserve account (Transurban CityLink & CityLink Management, 1996). Projected amortisation of facilities Transponders by approx (read from graph) 2004, Project Debt facility Feb 2014, CPI bond 2025 (Transurban CityLink & CityLink Management, 1996).

The Interest rate on the Project Debt was largely fixed prior to financial closing, and already hedged. CPI is a facility with fixed real (not nominal) interest rate (Transurban CityLink & CityLink Management, 1996).

The project debt is multi-option with two tranches. Tranche A has 17 years, limited during construction to AUD 1.19bn. Tranche B has 19 years and a limit of AUD 97.5m. The limit during the operations phase is AUD 0.8bn for Tranche A and AUD 97.5m for Tranche B. Tranche A is underwritten by ANZ, Commonwealth Bank, Westpac, Banque Nationale de Paris, Credit Lyonnaise Australia and IBJ. Tranche B is underwritten by National Australia Bank (Transurban CityLink & CityLink Management, 1996).

The Infrastructure Loan facility and Infrastructure Note facility are certified to qualify for concessional tax treatment. The Infrastructure Loan Facility was drawn to AUD 0.795bn during construction, then AUD 0.45409bn to pay for redemption of equity infrastructure bonds, and secured by case on deposit (Transurban CityLink & CityLink Management, 1996).

The Infrastructure Note facility matures on the ninth anniversary after financial close. It is underwritten by CBA, ANZ and Westpac, and is to be repaid on the ninth anniversary from proceeds in the security account (Transurban CityLink & CityLink Management, 1996).

The CPI is a long term funding source, with a term of 27 years. It has a natural hedge against increases because tolls also increase by CPI. Prior to completion it was secured by bank under PDF then same was PDF so underwritten by ANZ, Bankers Trust Australia Ltd, CBA, Macquarie Bank Ltd, MLC Ltd, Westpac (Transurban CityLink & CityLink Management, 1996).

The transponder debt is subordinated to other debt, totalling AUD 51m, fully amortised over a six-year life, and underwritten by National Australia Bank (Transurban CityLink & CityLink Management, 1996).

Concession Fee Payments are paid to government during the concession period at the following levels:

- AUD 95.6m pa during construction and the first 25 years of the Operations phase;
- AUD 45.2m pa from years 26 to 34;
- AUD 1m pa should the concession period extend beyond 34 years.

(Transurban CityLink & CityLink Management, 1996)

The payments can be paid as concession notes. Notes are due for redemption at the end of the concession period, but may be presented earlier if the following conditions are met:

- A notional initial equity investor to have received a real after tax internal rate of return on their investment equal to 10% pa and for not more than 30% of the distributable case flow for the previous year to be used; or
- The concession period has been terminated earlier on the basis that a notional equity investor has achieved a real internal rate of return after tax greater than 17.5% and all debt facilities have been fully repaid.

If the projected revenue is greater than the financial projections then additional concessions must be paid (Transurban CityLink & CityLink Management, 1996).

### *Commentary*

The project's financial objectives, which were common to both the Kirner and Kennett administrations, included:

- delivering the project without significantly adding to State debt;
- delivering the project quickly, rather than through a phased process of construction over a much longer period; and
- transferring financial and construction risks to the private sector.

The passage of the Commonwealth Infrastructure Borrowings Act 1994 further facilitated utilising the new private financing model, which the Victorian Treasury had promoted in its publication 'Private Infrastructure Investment' in June 1994.

Transurban's prospectus made the following predictions for opening, projected annual pre-tax distributions in the first three years:

- first year: AUD 65 (13%);
- second year AUD 80 (16%);
- third year AUD 85 (17%).

These predictions were dependant on traffic volumes. The projected internal rate of return is 19% over the life of the project (Transurban CityLink & CityLink Management, 1996).

Forty-five months after financial close, the parcels equity infrastructure bonds will be redeemed into a new stapled security comprising one share in the company and one unit in the trust. Each parcel will consist of 500 stapled securities which can be traded individually (Transurban CityLink & CityLink Management, 1996).

## **Traffic forecasts**

**Table 7: traffic forecasts for 2001 and 2011**

	Year 2001	Year 2011
Trucks	142	157
Cars	520	573
Coaches	Inc in trucks	Inc in trucks
Rail Freight	n/a	n/a
Other	n/a	n/a

Traffic forecasts were produced by an expert team of traffic engineers from Acer Wargon Chapman, DJA/Maunsell, and Transport Research Centre (RMIT), for 2001 and 2011 plus a growth rate assumption. RJ Nairn and Partners audited the work (Allen Consulting Group Pty Ltd et al., 1996).

Forecasting used the widely used TRIPS traffic network model. Imported data from vital project and other surveys conducted into travel time parameters used. The forecast was based on assumptions about other completed projects including the Western Ring Road and Coresby Freeway. The model produces a peak period, 24-hour and commercial vehicle volumes. It also modelled the amount of diversion different levels of tolls would produce. It

assumed the ratio of public transport to car traffic would stay the same (Allen Consulting Group Pty Ltd et al., 1996).

**Table 8: Estimated weekday volumes (000) by class of vehicle for 2001/2011**

Toll Zone Locations	Toll Zone	Cars	LCVs	HCVs	Total
North Brunswick Rd	1	104/106	21/21	7/7	132/134
Western Section 1	2	85/89	17/19	6/6	109/114
Western Section 2	3	82/99	17/21	6/7	104/127
Domain Section	4	78/89	16/19	5/6	99/113
SEA Punt to Burnley	5	87/102	18/21	6/7	110/130
SEA Burnley to Toorak	6	85/89	17/18	6/6	108/113
Totals		520/573	106/118	36/39	662/731

LCV = 1.5-4.5 tonne

HCV = >4.5 tonnes

Traffic growth after the first three years was considered to be 1% for all classes, growth beyond 2011 was assumed to be 0.5% pa. Volumes for the first few years were discounted by 1.6%. The diversion rate depends on vehicle type and time of day, with an average of 23% in 2001 and 21% in 2011, with the lowest diversion rate for cars in peak periods. The road was expected to reach capacity on some exit/entry ramps by the end of the concession period (Allen Consulting Group Pty Ltd et al., 1996).

The traffic models underlying the economic evaluations in the two Allen Consulting reports are also significantly different. The differences in traffic modeling are that in the old model:

- road networks (base and project) were as specified by Vicroads;
- a 2001 total traffic demand pattern was supplied by VicRoads;
- a 2001 commercial vehicle travel demand pattern was included, derived by Veitch Lister Consulting Pty Ltd for the Scoresby Corridor Project; and
- using the above as inputs, the VLC -TRANSCEND travel forecasting package was used to produce estimates of project benefits.

In the new model:

- traffic behaviour is calculated based on an expected 2011 network constructed by Veitch Lister Consulting Pty Ltd, based on the original VicRoads network but also including major changes to the inner city road network and a number of other projects deemed to have been completed by 2011 (eg F2 Freeway, Scoresby Freeway, Mornington Peninsular Freeway); and
- 2011 total travel and commercial vehicle travel demand patterns were derived specifically by VLC for the CityLink Projects.

“Thus the cases (reference and Transurban) are not directly compatible in terms of network specifications, travel demand estimates or time horizons.” (Allen Consulting Group Pty Ltd et al., 1996, p2).

The data on how the project will affect travel times, operating costs and accident costs was provided by Melbourne CityLink Authority. This was in turn derived from modelling of traffic flow effects by Veitch Lister. They are taken as given (Allen Consulting Group Pty Ltd et al., 1996).

The Southern Bypass EES provides further details about expected traffic volume changes. Significant increases were expected from Williamstown and Oakleigh, but less on the parallel arterial roads in Richmond, Southbank, Kings Domain, Burke Rd, Dandenong Rd and Kings Way. There would be a reduction of traffic in Kings Domain and South Eastern Arterial in South Richmond but it would not be possible to capitalise on this because of the need to keep the South Eastern Arterial. Traffic volumes on feeder arterials would increase but would be limited to the first or second intersection from the freeway. With traffic management devices this would discourage through traffic (VicRoads, 1994a).

The EES similarly estimates travel time savings as significantly more reliable and shorter travel times. Typical estimated reductions in travel time, especially during business hours were:

- Dandenong to City up to 20 minutes;
- Freight Dandenong to port or rail terminal by up to 30 minutes.

Access between industry and the port, rail and airport facilities would be improved, while also providing significant benefits to commuter and recreational travellers (VicRoads, 1994c).

The EES for the Western bypass notes that motor vehicle travel was increasing in Melbourne on average by 3.3% per year, and that many roads were well over a volume capacity rate of 1.0 (VicRoads, 1994a).

Freight rail was projected to increase, both interstate and intrastate. The port was similarly planning expansion. The back case studies included particular listed improvements to the road and public transport networks, most of which were approved by the government already, some of which were firm projected projects. The freight demand projections were from the linking Melbourne report.

Future traffic was estimated using all of these expected changes and TRIPS (a modelling programme). The model estimated traffic volumes by assigning predicted road travel demand to the road network (VicRoads, 1994c).

Traffic predictions for CityLink as a whole were that parallel routes would have reduced traffic and also on inner CAD roads and roads in South Melbourne and Port Melbourne. The maps give indications of changes and also clearly indicate that the volume of traffic on the new roads would be greater than the reduction on the feeder roads, indicating a belief in the theory that more traffic would come to use the roads. This is an interesting theme for the development as I am sure that Transurban had similar ideas. The screenlines suggest the reduction in traffic at the end of the Tullamarine Freeway would be about 32% and at Yarra River (without the bypass) about 30%, however in the south it is only 12% down to 4% at Glenferrie Rd. Also the screenlines indicate that "about 70,000 vehicles per day would come from the redistribution of traffic from local roads comprising the northern screenline with the additional 41,000 vehicles per day from the broader network" (of which about 10,000 would come from the north-south roads such as Sydeny Rd and Lygon St) (VicRoads, 1994e).

The models show that approximately 40% of southbound traffic would go into the city. Of the northbound traffic, 50% would use the Tullamarine Freeway, 26% Footscray Rd, and 22% Racecourse Rd. The economic performance is 2.4 BCR (AUD 1.475bn) compared with the 'do nothing' scenario, and 1.9 (AUD 0.915bn) compared with travel management (VicRoads, 1994e).

## **Funding sources**

The project was funded almost entirely from private sources – see above for details. Government funds came from consolidated revenue. State funds only were used.

## **Commentary on financing/funding**

Allen Consulting Ltd (1996) undertook two economic analyses of the project, one prior to the announcement that the road would be tolled and the other after. The details of the method of analysis are in the first report (not yet found). The second report found that the discounted stream of benefits to the year 2030-31 would be just over twice the discounted stream of costs "... because CityLink will lead to permanent cost savings to Victorian businesses which use the road transportation system, it will permanently benefit the Victorian and Australian economies".

The report is based on the premise that AUD 1.5bn in 1993 dollars would be expended on the project over the years 1995-96 to 1999-2000. Between 6,000 and 8,000 jobs would be generated. But the main benefits would be in operation, deriving from the project's linking of three high capacity freeways which are presently disconnected. The benefits of the linkage would be:

- significantly decreased travel times, especially around the CBD;
- lower vehicle operating costs and accident rates;
- a higher proportion of larger efficient trucks in the truck mix;
- off-road benefits accruing across industries, particularly in reduced inventory holding costs;
- consumer benefits such as lower prices for a wide range of goods and services with a direct or indirect freight or business/service travel component, and reduced private travel times.

Traffic modelling shows an increase in average travel speeds in the inner city area (especially on the freeways), savings of approximately AUD 0.118bn in 1993 dollars in 2000-2001. A reduction in vehicle operating costs of AUD 3m was estimated, due to lower fuel, tyre and vehicle maintenance costs, accident cost savings of AUD 13m in 2000-01, truck fleet mix savings to freight of AUD 50m in 2000-01, off-road benefits (such as efficiency of warehousing, improved links, flexible labour, lower inventory holdings costs) of AUD 40m in 2000-01, and direct benefits of AUD 0.228bn. "Discounted future stream of CityLink's benefits and costs implies a net present value of AUD 1.285bn and a benefit cost ratio of 2.04".

The industries with the greatest direct benefit would be domestic trade (shops, warehouses) with a quarter of the benefit, construction with a sixth of the benefit, and manufacturing with nearly a sixth. The service sector (with use of business travel, light commercial vehicle services) would also be big winners.

"The macroeconomic modelling (taking the case of unaffected national employment from the construction phase) suggests discounted net benefits from the project, measured in dollars of the year 2000-01 after the project is completed, of approximately:

- AUD 0.809bn attributable to the construction phase;
- AUD 0.298bn attributable to the operational phase; and
- AUD 1.107bn in total (0.16% of one year's total Aus GDP).

These estimates match quite closely the measures derived from the direct cost -benefit analysis, after allowing for the terms of trade effects linked to the ultimate use of additional foreign savings as part of the project's finance (an impact included in the macroeconomic analysis but not in the benefit cost analysis)." (p.iv)

Over 50% of traffic in the CBD was traversing this district, with no reason to be there. Efficiency in the area was low, with average travel speeds of 20km/h, despite major improvements such as those to Punt Rd. CityLink would dramatically improve the efficiency of travel within central Melbourne as well as greatly improving connectivity. "The achievement of a significant more efficient road transportation system will not only improve the competitiveness of industries traditional to Victoria, such as in the manufacturing sector, but will enhance the development of new industries, such as in the modern service sector, which would otherwise be inhibited in developing".

Travel time savings were estimated at 30,000 hours per day in 2011: at AUD 19.15/hr, the annual savings would be AUD 187m. Victorian employment would definitely increase. The effect of that increase on the nation would be either increased migration or lower employment in other states. The construction phase would lead to increased economic activity in Victoria. Gains to the economy from the operations phase would be through increases in productivity. Victorian income would be higher, and prices for some goods and services would be lower. The competitiveness of Victorian business would be improved, and reflected in an improved trade balance. The rise in productivity would also increase wages. CityLink would also bring a number of other wider benefits, including increased property values of between AUD 25m and AUD 31.1m, a positive contribution to an integrated transport strategy and enhanced urban development, by removing traffic from congested roads.

## F OPERATIONS

### Reported traffic volume

Figure 26: average daily transaction volumes for the month of November 2001

#### ASX RELEASE

#### TRAFFIC AND REVENUE DATA FOR NOVEMBER 2001

Average daily transaction volumes for the month of November 2001 are set out in the following table.

The descriptions of the toll zones used in the table are consistent with those used in the Transurban prospectus.

Toll Zone	All Days	Weekdays
Tullamarine Freeway, Moreland Road to Brunswick Road (Zone 1)	104,050	116,555
Racecourse Road to Dynon Road (Zone 2)	67,952	76,136
Bolte Bridge (Zone 3)	60,591	67,420
Domain and Burnley Tunnels <sup>(1)</sup> (Zones 4 & 8)	73,387	82,644
Batman Avenue, Swan Street to Flinders Street (Zone 5)	13,361	15,741
Batman Avenue, Punt Road to Swan Street (Zone 6)	18,259	21,431
Burnley Tunnel plus Monash Freeway, between Burnley Street and Punt Road <sup>(2)</sup> (Zones 7 & 8)	105,716	119,874
Monash Freeway, between Toorak Road and Burnley	106,983	121,218
<b>TOTAL ALL ZONES</b>	<b>550,299</b>	<b>621,019</b>

Notes: (1) This zone is referred to as "Zone 4 / Domain Section" in the Transurban prospectus.

(2) This zone is referred to as "Zone 5 / SE Arterial (Punt Rd to Burnley St)" in the Transurban prospectus.

The trends since opening in usage of the individual zones of Western Link and the Southern Link are shown in the attached table.

Average transaction volumes for all days in November increased by 1.7 per cent relative to October. Very strong growth in average transaction volume for weekdays (see below) more than offset the effects of low growth (0.7 per cent) in average transaction volume for non-weekdays and a slightly lower proportion of weekdays in November compared to October.

Average weekday transaction volumes in November compared to October increased by 4.2 per cent (Western Link: +5.8 per cent; Southern Link: +3.1 per cent). The corresponding growth rates for November 2000 were +4.3 per cent, +4.5 per cent and +4.1 per cent. The facts that the Link overall recorded almost the same month-on-month growth rate as a year earlier and the Western Link (which has now been in operation 23 months) recorded a significantly higher growth rate indicate the strength of the CityLink ramp-up.

docs2001\32100.doc\GRP\F06.02.005.10)

(Phillips, 2001)

Figure 27: traffic and revenue data for June quarter 2008



asx release

6 July 2008

TRAFFIC AND REVENUE DATA FOR JUNE QUARTER 2008

In Australia, there were two extra work days in the June quarter in 2008 due to the Easter holiday period falling in the March quarter in 2008, compared to the June quarter in 2007. FY08 includes one extra day as calendar year 2008 is a leap year.

CityLink, Melbourne – June quarter revenue up 9.7%

For the quarter ended 30 June 2008, toll and fee revenue (net of GST) was \$94.1 million, an increase of 9.7 per cent relative to the prior corresponding period.

Average daily transaction volumes and year-on-year growth rates for the June 2008 quarter were:

	June 2008 quarter (Actual)	June 2007 quarter (Actual)	% Change (Actual)	% Change (Normalised) <sup>(1)</sup>
Average Daily Revenue (\$A) (net of GST)	\$1,009,796	\$922,668	7.1%	9.7%
Average Workday Transactions	751,494	747,225	0.6%	4.0%
Average Daily Transactions	678,511	662,755	2.6%	5.0%

Notes: (1) Mordial Freeway and CityLink upgrade works commenced in early October 2007 and impacted overall traffic by 2.6 percentage points, consistent with project expectations. A slowdown of \$2.2 million has been made on the \$25 million revenue protection provision that was implemented as part of the projects financial arrangements. This results in a normalised 9.7% year on year revenue increase for the quarter.

Comments:

- An increase in Toll Tolls on 01 January 2008 contributed to the growth in Toll Tolls by greater than the 4.6 per cent price.

FY08 Full Year Result

For the year ended 30 June 2008, toll and fee revenue (net of GST) was \$362.0 million, an increase of 5.2 per cent relative to the prior corresponding period.

	FY 2008 (Actual)	FY07 2007 (Actual)	% Change (Actual)	% Change (Normalised) <sup>(1)</sup>
Total Revenue (\$A) (net of GST) <sup>(2)</sup>	\$368.856M	\$332.242M	8.0%	9.2%
Total Transactions <sup>(2)</sup>	247.010M	241.004M	2.6%	3.0%
Average Daily Revenue (\$A) (net of GST)	\$980,481	\$910,245	7.7%	8.9%
Average Daily Transactions	677,266	662,149	2.3%	3.6%

Notes: (1) Includes the extra day in the March 2008 quarter compared to the prior corresponding period.  
(2) Includes the Revenue Protection Provision for Mordial CityLink Westgate project.

1

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