

## CROSS CITY TUNNEL, SYDNEY, AUSTRALIA

### OVERVIEW

**LOCATION:** SYDNEY, AUSTRALIA  
**SCOPE:** INTRA-URBAN  
**TRANSPORT MODE:** ROAD  
**PRINCIPAL CONSTRUCTION:** TUNNEL  
**NEW LINK:** YES

### PRINCIPAL OBJECTIVES

**CONGESTION RELIEF**  
**LOCAL AREA REGENERATION**  
**TRAVEL TIME SAVINGS**  
**IMPROVED AIR QUALITY**  
**ACCESSIBILITY**  
**'NO COST TO PUBLIC SECTOR'**

### PRINCIPAL STAKEHOLDERS

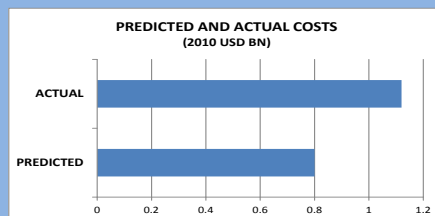
**CLIENT:** ROADS & TRAFFIC AUTHORITY  
**CONCESSIONAIRE:**  
**CROSS CITY MOTORWAYS**  
**CONTRACTOR:** BILFINGER BERGER  
**AKTIENGESELLSCHAFT/BAULDERSTONE**  
**HORNIBROOK JV**  
**NEW OWNER:** LEIGHTON/ABN AMRO

### PLANNING AND IMPLEMENTATION

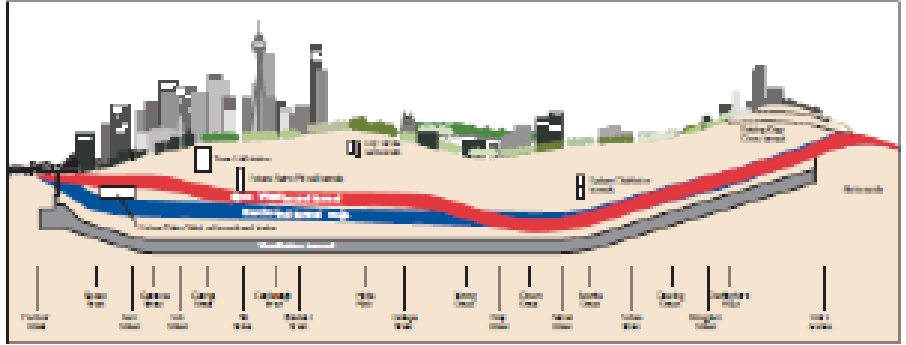
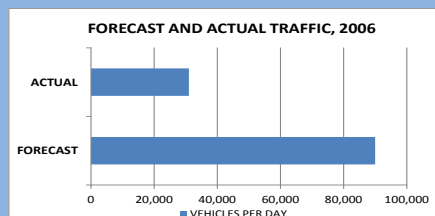
**APPROX. PLANNING START DATE:** 1990  
**CONSTRUCTION START DATE:** 01/2003  
**OPERATION START DATE:** 07/2005  
**MONTHS IN PLANNING:** 150  
**MONTHS IN CONSTRUCTION:** 30  
**PROJECT COMPLETED:** 2 MONTHS  
**AHEAD OF SCHEDULE**

### COSTS (IN 2010 USD)

**PREDICTED COST:** USD 0.80BN  
**ACTUAL COST:** USD 1.12BN  
**COMPLETED:** 40% OVER BUDGET  
**FUNDING:** 100% PRIVATE  
**(85% DEBT : 15% EQUITY)**  
**COST PER KM:** USD 0.27BN



### PATRONAGE (2006)



### INTRODUCTION

An urban road tunnel providing a new link within the city, consisting of two tunnels of 2.1km length, opened to traffic in 2005. Associated surface street works were completed in December 2006.

The tunnel has four entrances and four exits.

### BACKGROUND

The main objective of the project was to relieve congestion in the city centre, thus enhancing the urban environment, improving air quality and accessibility, and delivering travel time savings.

Procurement was by the state road agency (RTA); a private concessionaire (CCM) owns, operates and maintains the tunnel, financed through toll charges. Planning approval was given by the state planning minister.

State planning policies and local plans have legal status governing land use and development. For privately financed projects, the state planning department has no power to suggest alternative means of meeting the project's objectives, although the minister can (and did, in this case) impose conditions when planning permission is granted.

Environmental impact assessments (EIS) were carried out on the initial proposal, on the revised proposal and on the final proposal, the latter two involving public consultation. There was also limited local consultation on changes to surface streets.

The initial EIS included a cost-benefit analysis (showing a benefit/cost ratio of 3.1 at 7%) and comparison with other means of responding to travel demand.

An estimated 1,600 direct and 3,600 indirect jobs were created during construction, and 30 jobs following construction. One industrial fatality was recorded.

**TIMELINE**

CONTEXT: 1988: LEGISLATION PASSED ENABLING TOLLED ROADS
CONCEPTION: 1990, 1995: CITY CENTRE TUNNEL SUGGESTED
⋮
CONCEPTION: 1998: PUBLIC SECTOR FUNDING RULED OUT
CONCEPTION: 1998: INITIAL TUNNEL CONCEPT RELEASED FOR COMMENT: 2 DOLLAR TOLL SUGGESTED
INCEPTION: 1999: INITIAL PROPOSAL. REVISED PROPOSAL BASED ON ENVIRONMENTAL ASSESSMENT
INCEPTION: 2000: EIS ISSUED FOR PUBLIC COMMENT
INCEPTION: 2000: REGISTRATIONS OF INTEREST INVITED FROM PRIVATE CONSORTIA
INCEPTION: 2001: PLANNING APPROVAL GRANTED INCLUDING 240 CONDITIONS
INCEPTION: 2001: DETAILED PROPOSALS FROM THREE SHORTLISTED CONSORTIA
INCEPTION: 2002: CCM PROPOSAL CHOSEN
DELAY: 2002: CCM PROPOSAL NON-COMPLIANT, REQUIRES SECOND EIS AND APPROVAL FOR AMENDED PROJECT
INCEPTION: 2002: CONTRACT SIGNED WITH CCM
INCEPTION: 2001: PLANNING APPROVAL GRANTED INCLUDING 292 CONDITIONS
CONSTRUCTION: 2003 (JAN): CONSTRUCTION STARTS
CONTROVERSY: 2003: LEGISLATIVE COUNCIL BEGINS INVESTIGATING PROJECT
INCEPTION: 2004: AGREEMENT ON INCREASED TOLLS TO FUND EXTRA WORKS
DELIVERY: 2005 (AUG): CONSTRUCTION COMPLETE, OPEN TO TRAFFIC
CONSTRUCTION: 2005 (OCT): FORECAST CONSTRUCTION COMPLETION
CONTROVERSY: 2006: FIRST REPORT OF PARLIAMENTARY INQUIRY
CONTROVERSY: 2006/07: CCM DECLARED INSOLVENT AND BOUGHT OUT

**CHARACTERISTICS**

The cost was estimated at AUD 0.62bn in 2001 (USD 0.80bn in 2010 prices<sup>1</sup>). The final project cost was slightly over AUD 1bn (2006 prices) (USD 1.12bn, 2010 prices), including the concession bid of AUD 0.68bn (USD 0.79bn) (covering development, design, construction, fit out and commissioning costs).

Earlier, less ambitious, proposals were estimated to cost AUD 0.27bn (1998) (USD 0.39bn, 2010 prices) and AUD 0.4bn (2001) (USD 0.51bn, 2010 prices).

Engineering and construction are considered exemplary, with 92% of excavated material reused on other projects.

**TIMELINE ISSUES**

RTA awarded the concession to a non-compliant bid, which caused delay by necessitating a further Environmental Impact Statement and ministerial approval before construction could start. However, construction finished two months ahead of schedule.

**FUNDING**

Public funding was ruled out in 1998 and private consortia were invited to bid for the project. Three detailed bids were received in 2001; the winning concession bid of AUD 0.68bn included a ‘business consideration fee’ to the state of AUD 0.097bn, to cover preparation costs.

Additional works to the value of AUD 0.075bn and AUD 0.035bn were approved in 2002 and 2004 respectively. CCM was authorised to increase toll levels in order to fund these.

CCM was declared insolvent in 2006, with accrued debts of AUD 0.56bn, and the tunnel was bought by Leighton Contractors/ABN Amro in 2007 for AUD 0.7bn.

CCM’s business case assumed traffic volumes of 90,000 vehicles per day in 2006. Actual traffic in 2006 was only 26,000-31,000. No data are given on forecast and actual revenue, but inflated traffic forecasts have been cited as a reason for the collapse of CCM. Funding additional conditions and state costs may also have contributed to an unsustainable business case. A “concerted public campaign to demonise the project” is also cited as a possible reason for low traffic volumes.

The project was financed by AUD 0.58bn debt and AUD 0.1bn equity, by national and international (including Malaysian and German) investors, from initial capital of AUD 0.846bn (including AUD 0.3435bn equity).

<sup>1</sup> Costs have been converted to USD at 2010 prices, using historic inflation rates and current exchange rates, to allow comparison between projects.