

Tate's Cairn Tunnel Company Limited  
Application for Toll Increase

Background Information

1) **Tender Proposal.**

- a) Government issued an invitation in May 1987 to tender for a Franchise for the Construction and Operation of the Tate's Cairn Tunnel.
- b) Proposals was submitted on 25 September 1987 as stipulated by Government.
- c) Acting on behalf of proposed shareholders a joint venture company comprising Nishimatsu Construction Co and Gammon Construction Ltd (GNJV) was one of the three (3) consortia shortlisted. A total of six (6) consortia submitted proposals.
- d) After lengthy discussion, a Revised Final Proposal was submitted to Government on 22 January 1988.
- e) On 23 January 1988, Government offered the Franchise to GNJV, and hence the creation of Tate's Cairn Tunnel Company Limited.

2) **Acceptance of Tender.**

Government's offer was based on the Revised Final Proposal dated 22 January 1988 and subject to the following conditions:

- a) A construction period of 37 months.
- b) At a total construction cost of HK\$1.848 billion.

- c) Shareholders providing HK\$600 million in equity.
- d) Bank funding acceptable to and approved by the Government.
- e) Design and construction in compliance with Government's requirements.
- f) Low initial toll.

A low initial toll structure as submitted under the Base Toll Proposal:

Base Toll Proposal (From Operating Date)	Vehicle Class				
	Class 1	Class 2	Class 3	Class 4	Extra Axle
Initial Toll (Year 1 to 3 of operation)	\$4	\$7	\$8	\$8	\$5
Year 4 to 5 of operation	\$6	\$10	\$12	\$12	\$8
Year 6 to 8 of operation	\$8	\$14	\$16	\$16	\$10
Year 9 to 11 of operation	\$10	\$17	\$20	\$20	\$13
Year 12 to 14 of operation	\$13	\$23	\$26	\$26	\$16
Year 15 to end of Franchise	\$15	\$26	\$30	\$30	\$20

In the Final Proposal, two (2) alternative toll schedules in addition to the Base Toll had been proposed:

Alternatives to Base Toll Proposal	Vehicle Class				
	Class 1	Class 2	Class 3	Class 4	Extra Axle
Alternative 1					
Initial Tolls	\$5	\$7	\$7	\$7	\$6
Alternative 2					
Initial Tolls	\$5	\$7	\$10	\$10	\$7

The two (2) higher initial tolls alternatives were proposed to reduce higher increases in the future.

However, in establishing the Base Toll Proposal, the following two (2) important factors were taken into account:

- (i) Debt servicing requirements.
- (ii) Provision of moderate returns to investors during the life of the Franchise (IRR 13.02%).

3) **Government's offer was based on the Base Toll Proposal.**

4) **The Tate's Cairn Tunnel Ordinance Chapter 393 was enacted on 1 July 1988.**

5) **Main Terms and Conditions of the Franchise:**

- a) A franchise period of 30 years including the 37 months required for construction and no compensation shall be payable by the Government to the Company upon the expiration of the franchised period.
- b) On the road operating date the issued and fully paid up share capital of the Company shall be HK\$600,000,000.
- c) Royalty payments:
  - i) 2.5% of the operating receipts for a period of 5 years after road operating date; and
  - ii) thereafter, 5 per cent of the operating receipts for the duration of the franchise.
- d) Company to charge approved tolls for use of tunnel:
  - i) To collect the tolls as specified in the Schedule;

- ii) The tolls specified in the Schedule may be varied -

by agreement between the Governor in Council and the Company.

- e) Basis for toll adjustment:

The Company in carrying out its obligations, or the exercise of its rights, under the Ordinance is reasonably but not excessively remunerative to the Company, having regard to:

- i) any material change in the economic conditions of Hong Kong since the enactment of the Ordinance or, as the case may be, since tolls were last determined;
- ii) the project agreement comprising all tender submissions and Government responses; and
- iii) any other relevant matter.

6) **Financing Package:**

- a) A 15 years Term Loan Facility of HK\$1,550,000,000 by a consortium of 25 Banks, signed on 24 October 1989;

Facility:

- i) 2 years drawdown period while under construction;
- ii) 3 years grace period after road operating date;

- iii) Interest payment only for first 5 years;
- iv) 1st loan repayment to commence on the 4th anniversary date of Road Operating Date - 26 June 1995.

Loan Repayment Schedule:

	Financial Year	%	Yearly Repayment HK\$ million
1	94/95	1%	13.720
2 & 3	95/96	2%	27.440
4 & 5	96/97	8%	109.760
6 & 7	97/98	9.6%	131.712
8 & 9	98/99	10.4%	142.688
10 & 11	99/00	15.2%	208.544
12 & 13	00/01	16%	219.520
14 & 15	01/02	16%	219.520
16 & 17	02/03	16%	219.520
18	03/04	5.8%	79.576
		100%	1,372.000

- b) Permission was granted by the Financial Secretary on 25 October 1989 for the assignment of the Franchise to the Consortium of Banks.
- c) Loan repaid up to 26 June 1996 - HK\$41.160 million Loan outstanding - HK\$1,330.840 million.

7) **Comparison of traffic flow between Franchise Bid and Actual:**

	91/92	92/93	93/94	94/95	95/96	Total	%
	'000	'000	'000	'000	'000	'000	
Per Franchise Bid:							
Cars	14,091	14,941	15,791	16,636	17,481	78,940	58.63%
GV	8,335	9,135	9,935	10,735	11,535	49,675	36.89%
BUS	1,185	1,195	1,205	1,215	1,230	6,030	4.48%
	23,611	25,271	26,931	28,586	30,246	134,645	100.00%
Actual:							
Cars	13,820	16,662	19,430	19,739	18,727	88,378	67.05%
GV	6,066	7,398	8,490	8,469	7,530	37,953	28.80%
Bus	779	1,007	1,120	1,253	1,306	5,465	4.15%
	20,665	25,067	29,040	29,461	27,563	131,796	100.00%
Variances:							
Cars	(271)	1,721	3,639	3,103	1,246	9,438	11.96%
GV	(2,269)	(1,737)	(1,445)	(2,266)	(4,005)	(11,722)	(23.60%)
Bus	(406)	(188)	(85)	38	76	(565)	(9.37%)
	(2,946)	(204)	2,109	875	(2,683)	(2,849)	(2.12%)

8) **Reasons for the actual toll revenue lower than projected in the Franchise Bid:**

	91/92	92/93	93/94	94/95	95/96	Total
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
Toll Revenue						
- Franchise Bid	135	144	154	243	258	934
- Actual	112	134	156	172	226	800
	(23)	(10)	2	(71)	(32)	(134)
Plus: Non Toll Revenue	2	4	5	7	11	29
	(21)	(6)	7	(64)	(21)	(105)
Reasons:						
i) Delay in granting the 1st toll increase				(60)		(60)
ii) Change in goods vehicle classification		(2)	(2)	(3)	(10)	(17)
iii) Lower usage by commercial vehicles than projection Note (a) & (b)	(23)	(8)	4	(8)	(22)	(57)
Sub-total:	(23)	(10)	2	(71)	(32)	(134)

(a) Commercial Vehicles include all Goods Vehicles; Public Light Buses; and Franchised Buses.

(b) Lion Rock Tunnel Road Reconstruction - August 93 to March 95.

- a) Delay in granting the first toll increase - shortfall in toll revenue \$60 million.

In accordance with the Final Proposal the 1st Toll Increase should have become effective on 1 July 1994 - it was implemented on 1 May 1995, 10 months later. Discussion on 1st toll application commenced in late 1993.

- b) Change in Goods Vehicle Classification by Government:

After September 1992, goods vehicles of 5.5 tons originally classified as medium goods vehicles were reclassified as light goods vehicles. Similarly goods vehicles of 24 tons originally classified as heavy goods vehicles were reclassified as medium goods vehicles.

Total estimated shortfall in toll revenue due to reclassification for the 5 years period was \$17 million.

c) Land Use and Social-economic matters:

- i) Actual 1991 population figures for the North East New Territories was within 10% of projection. However, employment in the NENT was 28 % below projection.
- ii) In 1989, private car driving licence holders were no longer permitted to drive light goods vehicles.
- iii) A negative growth in light goods vehicles from 1991 to 1995 - licence fee for light van was increased in March 1991.
- iv) A drop in growth rates of heavy and medium goods vehicles:  
Heavy goods vehicles from 9.8% in 1991 to 4% in 1995.  
Medium goods vehicles from 27.5% in 1993 to 16.6% in 1995.
- v) The relocation of industries from Hong Kong to China also reduced the demand for local goods vehicle trips.
- vi) The introduction of Expressway Traffic Regulations in October 1991, prohibit all Public Light Buses from using expressways.

The above factors collectively accounted for an estimated shortfall of \$57 million in the first 5 years of operation.



9) **Non Toll Income (not anticipated in Franchise Bid)**

	91/92	92/93	93/94	94/95	95/96	Total
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
1) Rental from Advertising	1.1	2.1	2.9	3.2	4.5	13.8
2) Licence income from Telephone Companies	1.0	1.5	1.9	3.5	3.9	11.8
3) Consultancy Services	0.0	0.0	0.3	0.6	2.3	3.2
Total:	2.1	3.6	5.1	7.3	10.7	28.8

10) **Operating Costs - 5 years from Road Operating Date.**

Cost Elements	91/92 \$'000	92/93 \$'000	93/94 \$'000	94/95 \$'000	95/96 \$'000
a) Operations Cost	25,957	29,261	32,072	36,036	39,337
b) Maintenance (including Staff cost)	10,250	16,393	17,994	20,816	23,359
c) Rates, Wayleave & Crown Rents	3,541	3,541	3,705	4,067	4,389
d) Services (Utilities, Professional, Insurance)	11,440	11,134	14,802	17,686	17,460
Sub-total:	51,188	60,329	68,573	78,605	84,545
e) Royalty Payment	2,851	3,631	5,162	4,532	6,029
Total:	54,039	63,961	73,735	83,137	90,574

a) 5 years total operating costs in Franchise Bid - HK\$287.5 million.

b) 5 years total operating costs based on actual rate of inflation - HK\$354 million.

c) 5 years actual operating costs - HK\$343.6 million.

Actual/Franchise Bid:  $\$343.6 - 287.5 =$  an increase of \$56.1 million or 19.5%

Actual/Actual Rate of Inflation:  $\$343.6 - 354 =$  a reduction of \$10.4 million or minus 2.9%.

In the Franchise Bid, operating costs were based on a predicted inflation rate of 6% having regard to the previous 3 years average rate of inflation of 3.87%.

d) Rates of inflation from the Year 1984/85 to 1995/96:

	YEAR											
	84/85	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96
CPI (A) Index	4.8%	2.8%	4%	6.6%	9.1%	9.6%	11.4%	10.5%	8.8%	8%	9%	7.3%

**11) Average Total Number of Employees:**

Year	1991/92	1992/93	1993/94	1994/95	1995/96
Number	246	256	263	265	263
Staff Turnover Rate	26.0%	13.05%	11.61%	16.03%	3.4%

**12) Reasons for this toll application:**

To meet the current financial year's commitment:

	HK\$m
a) scheduled loan repayment	109.7
b) interest and financial charges	140.0
c) operating cost	98.0
d) Royalty payment	14.0
Total:	HK\$361.7 million

**13) Transport Advisory Committee's recommended toll increases of 27 August 1996.**

- a) Based on TAC's recommended toll increases, the projected total operating receipts including non toll income for the current financial year is HK\$282 million, this together with the small cash reserve brought forward from the previous year the Company is just in a position to meet all its financial commitments.
- b) The projected break-even average toll rate based on projected operating expenses and the traffic forecast after toll increase is HK\$12.54.
- c) The average toll based on TAC's recommended toll increases is HK\$10.54.

**14) Comparison of 3 existing 'BOT' Tunnels:**

- a) Tate's Cairn Tunnel (TCT), year ending 30/06/95
- b) Eastern Harbour Crossing Tunnel (EHT), year ending 30/09/95
- c) Cross Harbour Tunnel (CHT), year ending 31/12/95.

Tunnels	Tunnel Length	Construc- -tion Cost	Year Operat- -ional	Opening Toll (Private Cars)	Current Toll (Private Cars)	Average Toll Rate	No. of Staff	Operating Cost	Operating Cost per Km
		HK\$B						HK\$M	HK\$M/km
CHT	1.8km	0.3	1972	\$5	\$10	11.57	261	72	40.00
EHT	1.9km	1.8	1989	\$10	\$10	12.30	267	91	47.89
TCT	3.9km	1.8	1991	\$4	\$6	8.13	265	74	18.97

**15) Comparison of Toll Fares of all 'BOT' Tunnels:**

Vehicle Type	TATE'S CAIRN TUNNEL (3.9km)		CROSS HARBOUR TUNNEL (1.8km)	EASTERN HARBOUR TUNNEL (1.9km)	WESTERN HARBOUR TUNNEL (2.0km)	ROUTE 3 (CPS) (3.8km)
	Existing Toll	Endorsed by TAC	Existing Toll	Existing Toll	Scheduled Initial Toll	Scheduled Initial Toll
	1995	1996	1995	1995	1997	1998
Motorcycle	6	8	4	5	15	10
Private Car	6	8	10	10	30	15
Public & Private Light Bus	10	13	10	15	40	30
Goods Vehicle :- 5.5 tonnes	10	13	15	15	45	30
>5.5 - 24 tonnes	15	20	20	20	65	40
>24 - 38 tonnes	15	20	30	30	95	60
Single decker bus	15	20	10	20	40	30
Double decker bus	15	20	15	30	55	45
Additional axle	5	7	10	10	30	20

**16) Comparison of known Internal Rates of Return's for other 'BOT' Tunnels:**

Eastern Harbour Crossing	16.5%
Western Harbour Crossing	16.5%
Route 3 (Country Park Section)	15.18%
<b>Tate's Cairn Tunnel</b>	<b>13.02%</b>

17) **Possible Improvement to Service.**

- a) The Company was the first Tunnel Operator in Hong Kong to undertake and commit to a set a performance standards. The performance standards were first introduced in 1993 as follows:

<b>Performance Standards</b>	<b>Achievements in 1995/6</b>	<b>Targets for 1996/7</b>
<ul style="list-style-type: none"> <li>An average CO (Carbon Monoxide) concentration level under normal traffic conditions within the confine of the tunnel below 80 ppm (parts per million), the prescribed legal requirement is 150 ppm.</li> </ul>	Generally achieved	To be maintained and improve upon
<ul style="list-style-type: none"> <li>A minimum of 92.9% of the Toll Booths in operation during rush hours.</li> </ul>	Generally achieved	To be maintained
<ul style="list-style-type: none"> <li>Not more than 0.5% of the tunnel lighting units or lane traffic signals out of service inside the tunnel tubes for a period exceeding 24 hours.</li> </ul>	100%	100%
<ul style="list-style-type: none"> <li>A maximum response time of 4 minutes under normal traffic conditions to any vehicle breakdown, traffic accident or any incident inside the tunnel tubes.</li> </ul>	Generally achieved	To be maintained
<ul style="list-style-type: none"> <li>The delivery of Tunnel Prepaid Tickets within 2 working days of receiving the mail order.</li> </ul>	100%	100%
<ul style="list-style-type: none"> <li>To respond immediately or within the same day to any telephone enquiry.</li> </ul>	Generally achieved	To be maintained
<ul style="list-style-type: none"> <li>To provide a reply, or an interim reply to written enquiry or complaints within 2 working days</li> </ul>	Generally achieved	To be maintained

b) Comparison of Air Quality in seven of the Road Tunnels:

(THIS PAGE CAN BE FOUND ON BACKGROC.DOC (CHINESE VERSION))

**Tate's Cairn Tunnel is the second best for Carbon Monoxide and third best for Nitrogen Dioxide levels.**

- c) Notwithstanding the Air Quality in the Comparison Table, the Company has recently appointed a specialist Consultant Firm on Tunnel Ventilation to conduct a study on further improvement to the air quality in the Tunnel. Further improvement measures will be carried out subject to recommendations to be made by the Consultants and subject to detailed discussion with the concerned Government Departments.

**18) Possibility of improving additional toll and non toll income:**

a) Toll Income:

- i) Although detailed analysis by the Company's Traffic Consultants have established that the financial position of the Company will not be improved if the Company introduces a lower toll for non-peak traffic, the Company will, however, continue to explore this possibility and consider other means of attracting motorists to use the tunnel during non-peak hours.
- ii) Requests will be made to Transport Branch for the granting of additional Green Public Light Bus routes through the Tunnel.

b) Non Toll Income:

The Company is governed by the Ordinance as to how it can operate its Franchise.

Over the past 5 years, the Company has generated over HK\$29 million of non-toll income which was not anticipated in the Franchise Bid.

It should be noted that although the amount of non-toll income generated is not insignificant, it only amounts to less than 5% of the toll income.

Notwithstandingly, the Company will continue to actively seek opportunities to generate additional income through activities related to its core business:

- i) The Company has already sought approval from the Commissioner of Transport for 5 additional advertising sites.
- ii) The Company has already entered into discussion with 2 of the Personal Communication Network Companies for providing their service in the Tunnel.
- iii) The Company will continue to provide its consultancy work to other newly developed facilities both in Hong Kong and China.

**19) Possible Cost Saving - Operating Costs:**

The Company constantly reviews its operating costs over which it has direct control. Its total annual operating costs compare very favourably with other privately operated facilities, even though the tunnel is more than twice as long as these facilities.

The Company will undertake to review again the overall operating costs and explore the possibility of some cost saving measures including:

- a) Reviewing and optimizing toll collection costs.
- b) Exploring the cost effectiveness of some or all of its maintenance works.



20) **Conclusion:**

The Shareholders of the Company wish to draw the honourable members' attention to the fact that the recommended toll increases by the Transport Advisory Committee on 27 August 1996 will only partially enable the Company to meet its operating costs, interest payment and the scheduled loan repayment in the current financial year.

Based on the current projection, the shareholders who initially invested HK\$600 million in the project as stipulated in the Ordinance, will not receive any dividend till the 12th year of operation which is 6 years later than anticipated in the Franchise Bid.

As previously mentioned the main contributing factors which caused the worsening of the financial situation of the Company than anticipated in the Franchise Bid are factors outside the control of the Company. Namely:

- a) the delay in the 1st toll increase which caused a loss of toll revenue of HK\$60 million,
- b) the further delay in the current toll application amounting to HK\$5 million per month, and
- c) other external factors which were explained in detail in the paper.

It would appear that the longest road tunnel in Hong Kong constructed within 35 months, completed 10 months earlier than anticipated by Government has brought considerable benefits to the Hong Kong community and road users by providing a major boost in improving the road links between the urban area, especially Shatin and the north eastern New Territories as envisaged at the commencement of the project and by boosting the economic confidence of Hong Kong at a time of low economic development.

The Tunnel Company has provided non-interrupted service to the motorists since it opened to public use and the air quality within the tunnel are well above the standard stipulated by Government.

It must be emphasized that the Company's proposed toll increases and the toll increases recommended by the Transport Advisory Committee are very much in line with the original Base Toll Schedule submitted in the Final Proposal. This is despite the fact that the shareholders dividend will be delayed by at least 6 years compared with that originally anticipated in the Franchise Bid. Finally we would urge the honourable members to support the Company to continue its contribution to the benefits of the community.

Tate's Cairn Tunnel Co Ltd

19 September 1996