Please ask the Administration the following questions for us and the public:-

TO SOLVE SHORT TERM PROBLEMS

1. To help logistic business in the immediate next few years!

(i) reduce toll at Tai Lam Tunnel to improve their competitiveness
(ii) to use Tai Lam:- shorter travel distance and time
(iii) save on fuel cost, thus helping the environment

2. To relieve Tuen Mun Centre #2 (Dual Two Carriageway)

From now till year 2007/2008, there will not be any relief on #2. So to use the toll balancing method and to build Tuen Mun East By-pass now (like the implemented Yuen Long South By-pass) to benefit public.

QUESTIONS TO THE ADMINISTRATION

1. Will any section or the whole of #10 be tolled? Can the administration confirm one way or another now?

2. If tolled, what level of toll will be set at? Similar to #3 Tai Lam Tunnel?

3. If tolled at Tai Lam level, (the free) Tuen Mun Road will still be congested?

4. Will Tsing Lung Bridge be tolled? Whatever that is, does it apply to both directions after crossing Tsing Lung i.e.
(a) right turn to CLK (Airport)
(b) left turn to Ma Wan/Tsing Ma (NT & Kowloon)
will they both be free?

5. Can Tsing Ma West bound Travelers turn RIGHT into Tsing Lung? If so, is Tsing Ma to be free for this mode of travel, as the current toll plaza is beyond this point?

6. If it is free, what is the traffic impact on (a free) Tsing Ma?

7. If Tsing Ma is not free, #9 & #10 & #3 traffic will use Ting Kau (not Tsing Lung). Ting Kau will have a big problem.

8. #10 feeds traffic through Sham Tseng Tunnel to Ting Kau Bridge. Similarly, #9 (through Stonecutter Bridge and Nam Wan Tunnel) is to feed traffic to Ting Kau as well. Can Ting Kau cope with these traffic? At present, Ting Kau has already a lot more traffic them Tai Lam! Obviously, **Ting Kau will be the bottle neck.** So #10 will not solve any congestion problems as a whole.

9. The actual Tai Lam Tunnel morning peak V/C ratios are:-

	South Bound	North Bound
8:00am - 9:00am	0.72 (for design free flow)	-
	0.56 (for road capacity)	-
6:00pm - 7:00pm	-	0.47 (for design free flow)
		0.37 (for road capacity)

So it is not V/C: 0.8 as the Transport Department suggested. Even if there is a V/C = 0.8 for one hour on one day (for example, when Tuen Mun Road had a serious car accident), if one looks at the enclosed charts, there is still ample spare capacity for the Road.

Further, the peak hour V/C ratio will drop significantly when the West Rail opens in year 2004.

10. Can the Government release the revised / updated traffic data and its forecast to Legco or to public?

11. Can the Government review the whole port, logistics, West Rail, Route 9 and Ting Kau Bridge, etc. in the overall planning before finalising #10?

GENERAL STRATEGIC PLANNING ISSUE

1. Since the landing points of Tsing Lung and Tsing Ma are at the same point (i.e. North East tip of Lantau). Therefore, there is always a 16km (each way) cul-de-sac to CLK with and without Tsing Lung Bridge.

2. Both bridges (Tsing Ma and Tsing Lung) close during typhoons.

DESIGN ISSUES

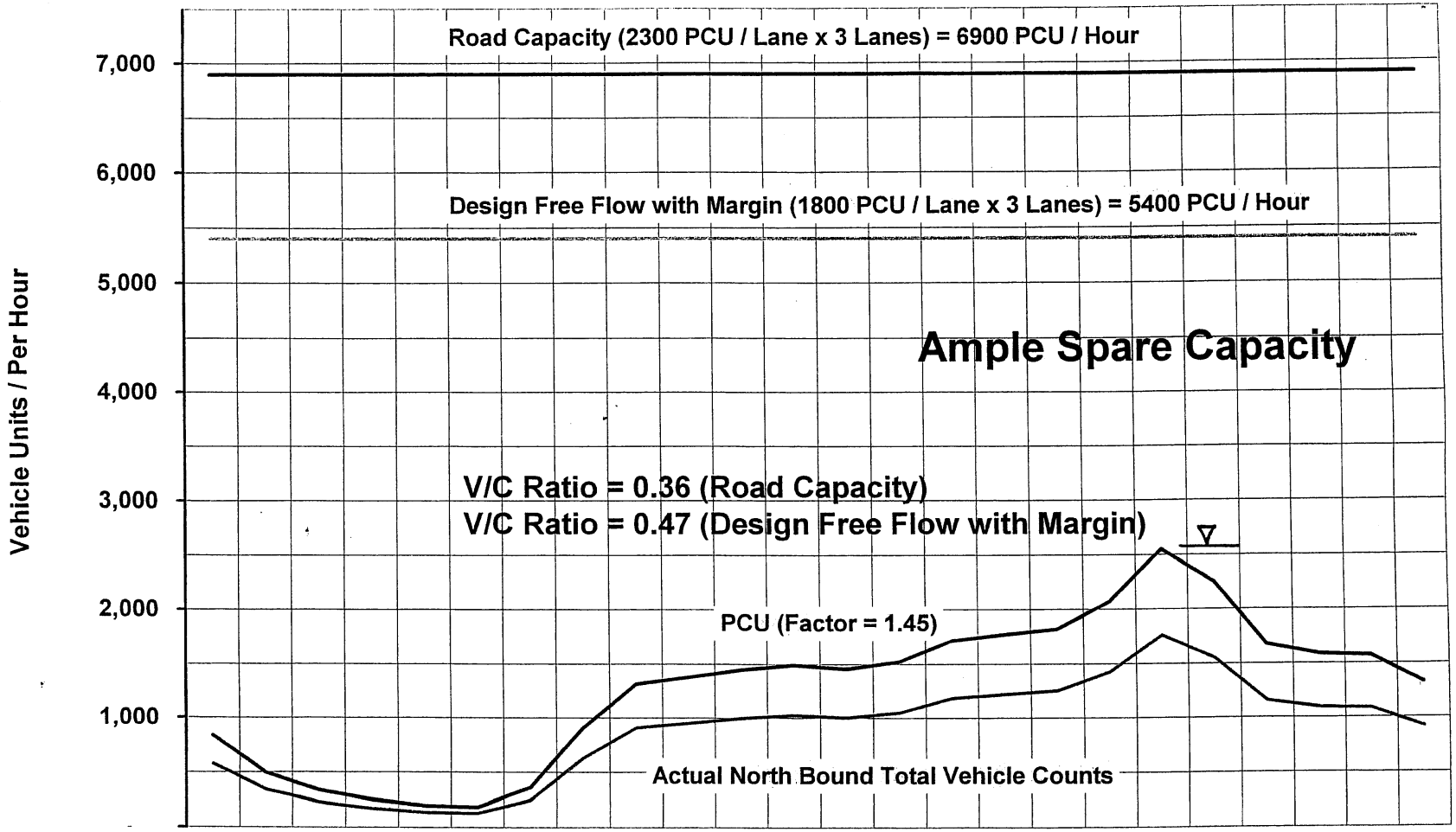
1. Gordon Wu's Tunnel-Bridge proposal to CLK: Highways Department uses 3% gradient approach while the Hung Hom Tunnel approaches, near the portals, are at 5-6% gradient (refer to the enclosed extract). So the artificial islands can be much shorter than the 1.5km long as suggested by Highways Department i.e. more like 500 - 600m.

Regards,

Leo Leung

(for Sir Gordon Wu)

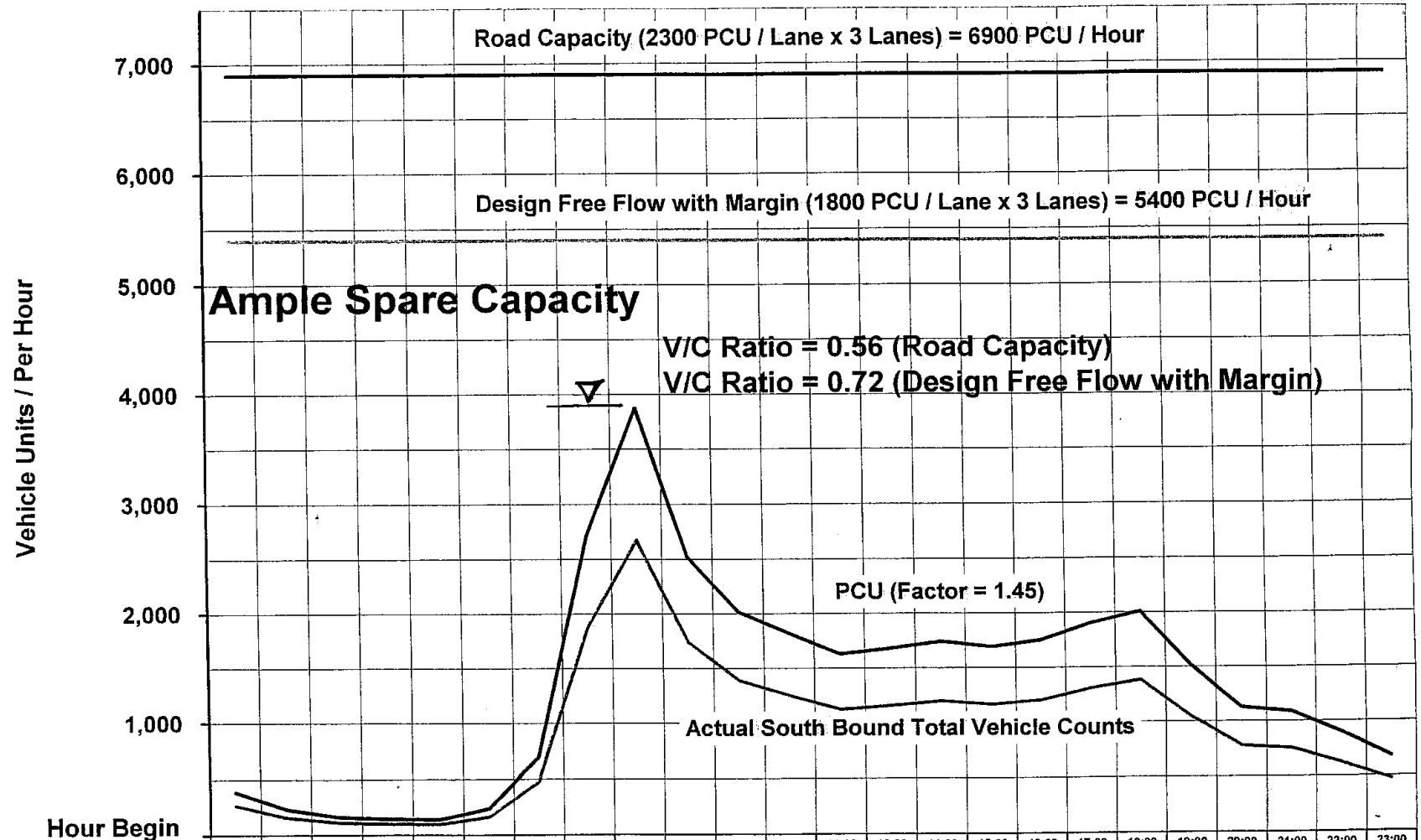
Tai Lam Tunnel Annual Average Hourly Usage (North Bound)



Hour Begin

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
North Bound Total Vehicles	576	339	231	172	136	127	249	626	907	951	998	1,027	1,004	1,050	1,183	1,220	1,255	1,429	1,760	1,551	1,157	1,094	1,084	916
PCU / Hour	835	492	335	249	197	184	361	908	1,315	1,379	1,447	1,489	1,456	1,523	1,715	1,769	1,820	2,072	2,552	2,249	1,678	1,586	1,572	1,328
Design Free Flow with Margin (3 Lanes)	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400
Road Capacity (3 Lanes)	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900

Tai Lam Tunnel Annual Average Hourly Usage (South Bound)



Hour Begin	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
South Bound Total Vehicles	266	161	115	103	97	165	478	1,873	2,673	1,741	1,388	1,254	1,124	1,158	1,201	1,167	1,207	1,312	1,385	1,042	778	751	619	468
PCU / Hour	386	233	167	149	141	239	693	2,716	3,876	2,524	2,013	1,818	1,630	1,679	1,741	1,692	1,750	1,902	2,008	1,511	1,128	1,089	898	679
Design Free Flow with Margin (3 Lanes)	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400
Road Capacity (3 Lanes)	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900

Plate No. 25

ventilation capacity is 1,480,000 cfm (41,440 m^3/min), which is equivalent to the accepted standard of ventilation in vehicular tunnels of 100 cubic feet per minute per foot of traffic lane (100 cfm/tlf or 0.85 m^3/min/tlm). Total available area within the completed tunnel is 785 ft^2 (73 m^2); 21 per cent of this area is taken up by the ventilation structures. Clear headroom over the traffic lanes is 16.5 ft (5.03 m).

Hong Kong

The Hong Kong tunnel, connecting the Island of Victoria with the Kowloon Peninsula, is a submerged-tube tunnel. The submerged section consists of 15 separate units, 73 ft (22.3 m) wide and varying in length from 324 to 374 ft (99 to 114 m). Each unit basically consists of two 34-ft (10.4 m) steel "cans" constructed of 0.375-in (9.5 mm) plate and 10,000 yd^3 (7,600 m^3) of reinforced concrete lining. As each unit was floated into place above the predredged trench, an additional 200 yd^3 (150 m^3) of concrete was added to generate negative buoyancy. Guided by a specially designed sinking rig, each unit was then lowered into place in the trench. The foundation consists of a 2-ft (60 cm) layer of crushed rock. Two lanes of one-way traffic within each "can" travel on a 22-ft (6.71 m) roadbed with 15 ft (4.57 m) of headroom. Maximum grade at the portals is 6 per cent. Ventilation buildings at each portal employ 78-in (2 m) diameter, two-speed, fixed-blade, axial-flow fans to generate a maximum fresh-air supply of 2,600,000 cfm (73 600 m^3/min), which is equivalent to 107 cfm/tlf (0.92 m^3/min/tlm). The traffic control system includes a closed-circuit television surveillance system with cameras mounted at 1,000-ft (305 m) intervals in each tube. Facilities at each portal include 14 toll lanes with collection booths, six of which are reversible to accommodate rush-hour traffic. Inside the tunnel, the precast concrete ceiling is finished in matte black and the walls are colored a semigloss off-white. The roadbed is asphaltic concrete. Traffic flow is expected to reach 35,000 vehicles per day by 1982.

HANDBOOK OF HIGHWAY ENGINEERING

Robert F. Baker, Editor
L. G. Byrd D. Grant Mickle
Associate Editors

Maximum grade at the portals is 6 per cent.

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VNR VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE

Hong Kong Harbour Tunnel was predicted to have only 35,000 vehicles / day, 10 years after opening.

HONG KONG 1983

and is progressively being expanded to cover east Kowloon. Some 70 junctions in east Kowloon were brought under computer control in 1982, bringing the total number of junctions computerised to 190. Computerised traffic control will be introduced on Hong Kong Island in 1983, initially to cover 80 junctions.

Road Tunnels

Hong Kong is now served by four major road tunnels. With the exception of the Cross Harbour Tunnel, these are managed by the Transport Department.

The partially-opened Aberdeen Tunnel carried an average of 24 000 vehicles daily at the end of 1982 at an interim flat toll of $2. The non-toll Airport Tunnel was used by 26 000 vehicles each day.

The oldest tunnel, through the Lion Rock, provides an essential road link between urban Kowloon, the expanding new town of Sha Tin and the northeast New Territories. It was opened in 1967 as a single-tube tunnel but was modernised and expanded to a two-tube operation in 1978. The average daily traffic figure now exceeds 56 000 vehicles.

The twin-tube Cross Harbour Tunnel links the Kowloon Peninsula and Hong Kong Island and is operated by the Cross Harbour Tunnel Company Limited. Since opening in August 1972, average daily traffic figures have progressively risen and now exceed 110,000 vehicles. The tunnel ranks among the world's busiest. The government is considering proposals for a second fixed vehicular road crossing which, subject to technical studies now proceeding, is likely to be a bridge from Lei Yue Mun.

The Actual Traffic in the Hong Kong Harbour Tunnel 10 years after opening (1982) exceeded 110,000 vehicles / day.