CB(1)82/01-02(03)

Response to
Transport Bureau's Report
on January 11th 2002

Presentation to the
Panel on Transport
Legislative Council

Deep Bay Link and Route #10

Sir Gordon Y.S. Wu (胡應湘), KCMG
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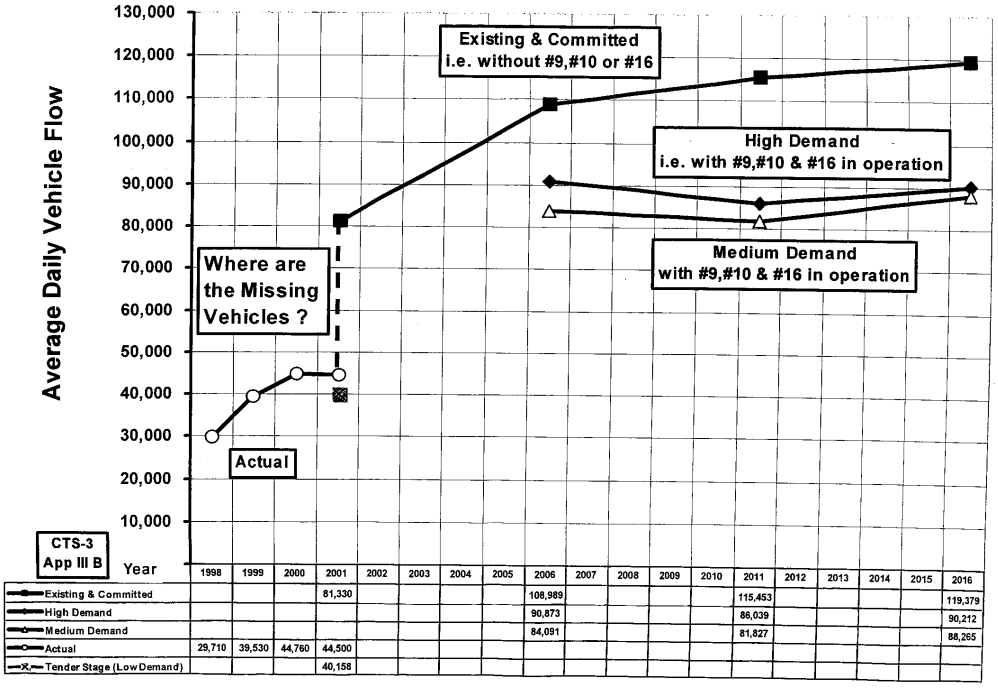
Honorary Fellow, Hong Kong Institution of Engineers

January 17th 2002

Tai Lam Tunnel Traffic Flow



CTS-3
App III B

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Existing & Committed				81,330					108,989					115,453					119,379
High Demand									90,873					86,039					90,212
Medium Demand									84,091					81,827					88,265
Actual	29,710	39,530	44,760	44,500															
Tender Stage (Low Demand)				40,158															

Following the Transport Bureau Presentation to Legco on January 11th 2002, I supplement the following with respect to my objections to the building of Route #10.

1. LARGE TRAFFIC PREDICTION DISCREPANCIES

The traffic projections of 2001 in CTS III, which was published in 1999, already differ significantly from the actual numbers.

Annual Average Daily Traffic (AADT)	**Actual Flow**	**CTS-3 Flow Forecast**			
		Technical Report: Appendices - Volume 1 Published October 1999			
		Reference Case	**High Demand**		
	2001 Year	2001 Page III B-1	2006 Page III B-5	2011 Page III B-11	2016 Page III B-21
Route 1 Tolo Highway	**119,980**	123,786	139,045	115,988	130,226
Route 2 Tuen Mun	**96,760**	**128,985**	140,238	132,208	130,165
Route 3 Tai Lam	**44,760**	**81,330**	90,873	86,039	90,212
Ting Kau Bridge	**73,010**	**107,910**	103,518	96,000	85,458
Lantau Link	**37,350**	**82,935**	95,870	123,711	115,116
Western Harbour Crossing	**42,797**	**82,514**	123,295	116,601	109,465
Route 10	**-**	**-**	47,265	71,474	88,625

Simple logic would say that the CTS III figures for 2011 - 2016 would probably err on a greater scale; particularly if the effects of West Rail are taken into consideration. How could the Transport Secretary confirm in the Legco meeting on January 11th 2002 that Route #3 traffic will match the forecast in 10 years time?

The annual hourly average Vehicle / Capacity (V/C) ratios of Route #3, with the details supplied by the operators, are as shown in the enclosed charts. The V/C ratio of 0.80 (as presented by the Transport Department) is a monthly hourly peak (1 hour per month) and not the annual average hourly peak, which stood at 0.57 for south bound and 0.39 for north bound. Further, for a 15 hour time span during the day, there is still a 70% spare capacity to be utilized.

2. USAGE OF TOLL ROADS VERSUS FREE TOLL ROADS

Throughout history it has been proven that a toll road built alongside a toll free road will not attract adequate usage. By the same token, a higher toll road will also attract less traffic alongside a lower-toll road. Cases in point:

	Toll	**VPD**
Route #1 Tolo Harbour Road	Free	119,980
Route #2 Tuen Mun Road	Free	96,760
Route #3 Tai Lam Tunnel	$22-40	44,760
and		
Hung Hom Tunnel	$20	120,350
Western Harbour Tunnel	$35	42,797

In CTS III, toll was suggested to be $15 for Tsing Lung Bridge. However, recently a senior Transport Bureau representative has already confirmed that Tsing Lung Bridge will be toll free.

If Tsing Lung Bridge is toll free, then Tsing Ma Bridge will effectively become toll free.

- From Kowloon to Airport: an omega detour through Ting Kau Bridge and Tsing Lung Bridge.

- From Kowloon to Tuen Mun: via Tsing Ma Bridge, turn north before the toll plaza on the Tsing Lung.

A rather serious leakage, I would say.

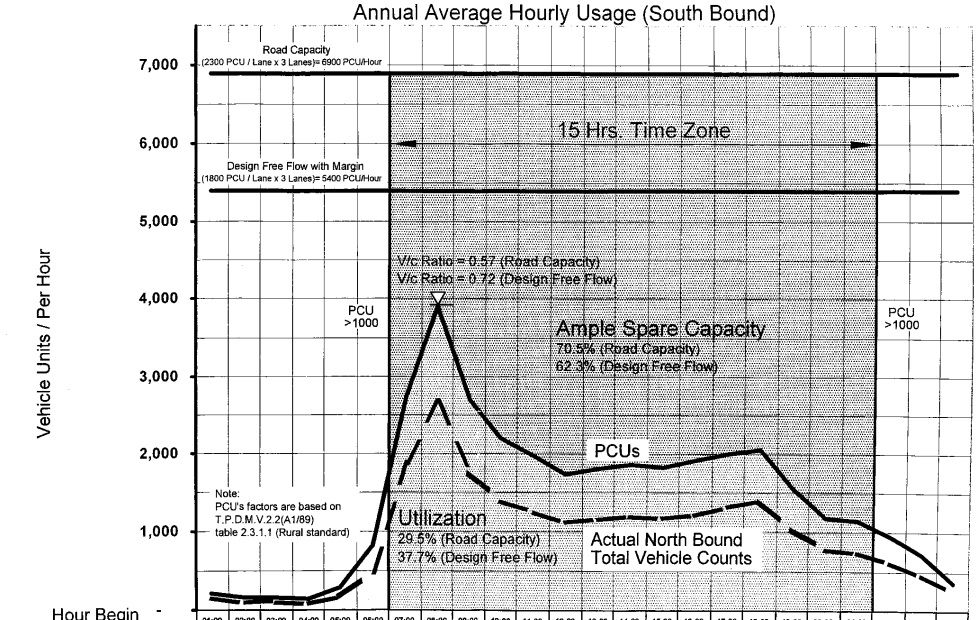
The level of toll is a vital consideration to the success or failure of any toll road. The Transport Secretary had confirmed that Route #10 is to be tolled. On January 11, 2002, I listened with amazement, in this hallowed chamber, the Transport Bureau Secretary's statement: "the toll level will not be determined until Route #10 is nearer to opening. It can be from zero to infinity". In other words, it is similar to order and open an expensive bottle of wine, without worrying whether one can pay for it or not!

I have asked this question of cost recovery but so far have received no answer.

If the Route #3 operators cannot afford to recoup its HK$7,000 million investment, how can Government ever recoup its $22,000 million? Let us not pretend Government can ever recoup its costs via tolls. Please call a spade a spade!

Tai Lam Tunnel

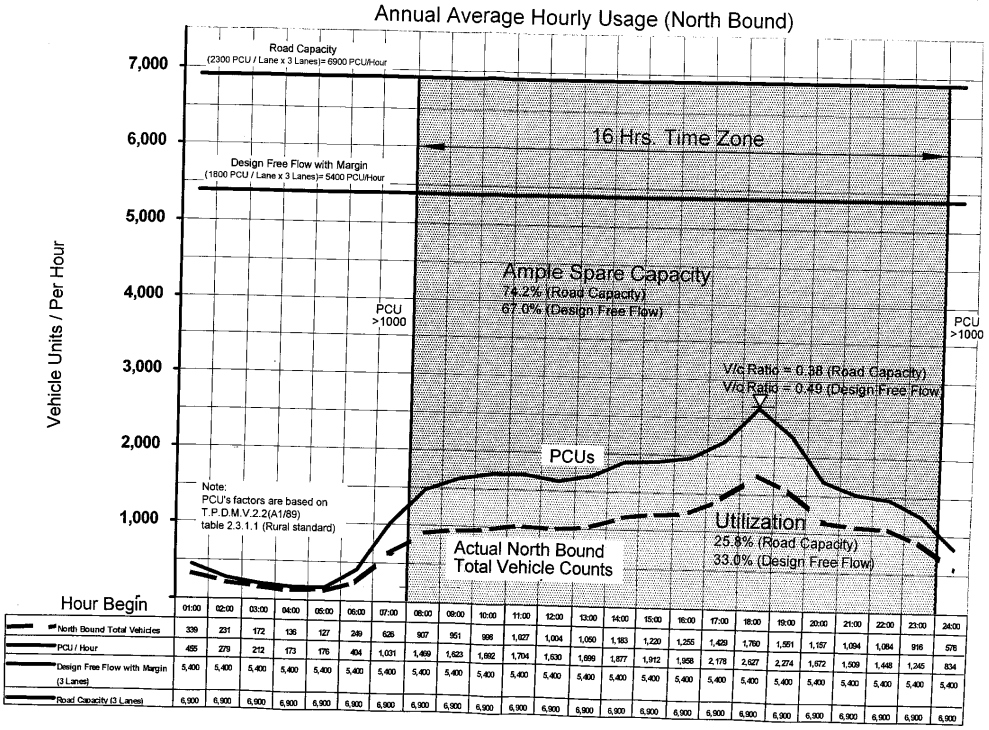
Annual Average Hourly Usage (South Bound)



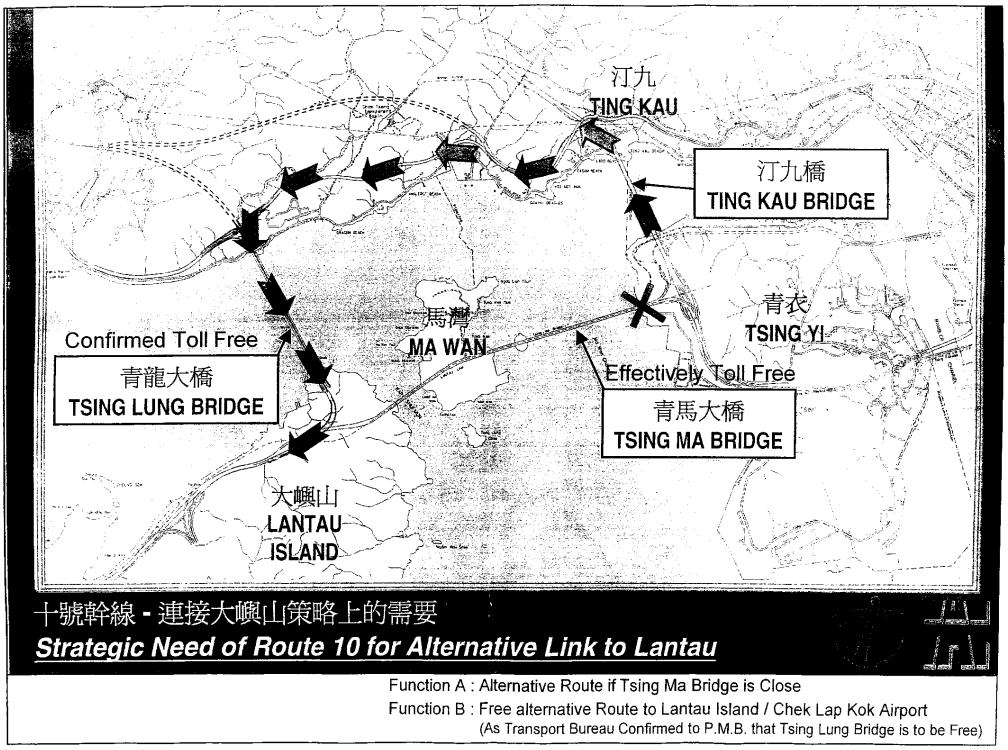
Hour Begin	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00
South Bound Total Vehicles	161	115	103	97	165	478	1,873	2,673	1,741	1,388	1,254	1,124	1,158	1,201	1,167	1,207	1,312	1,385	1,042	778	751	619	468	266
PCU / Hour	212	157	155	151	290	822	2,734	3,899	2,699	2,194	1,966	1,735	1,802	1,861	1,821	1,913	2,000	2,042	1,554	1,181	1,133	942	707	363
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 (North Bound)



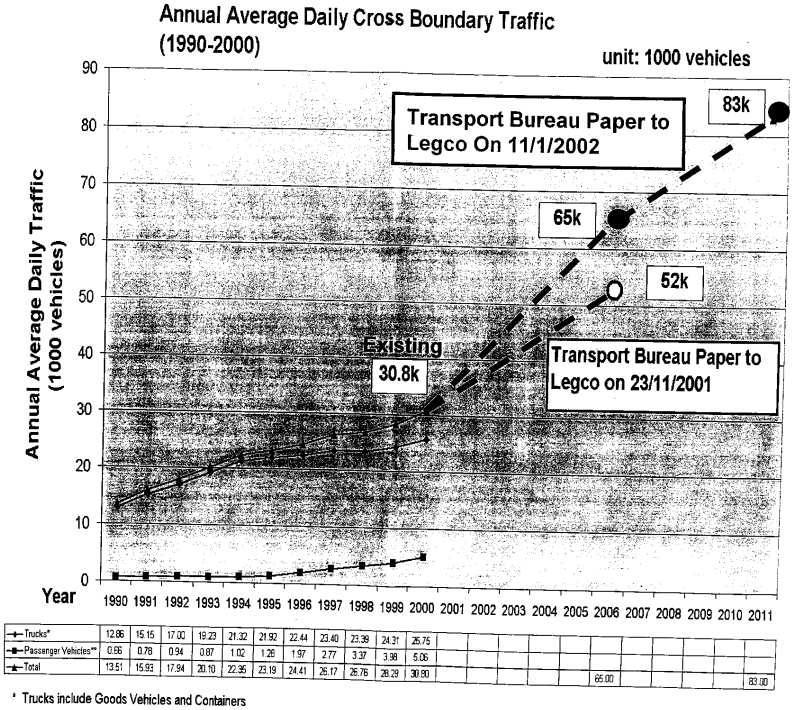
Hour Begin	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00
North Bound Total Vehicles	339	231	172	136	127	249	626	907	951	998	1,027	1,004	1,050	1,193	1,220	1,255	1,429	1,760	1,551	1,157	1,094	1,084	916	576
PCU / Hour	455	279	212	173	176	494	1,031	1,469	1,623	1,692	1,704	1,630	1,699	1,877	1,912	1,958	2,178	2,627	2,274	1,672	1,509	1,448	1,245	834
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



Function A : Alternative Route if Tsing Ma Bridge is Close

Function B : Free alternative Route to Lantau Island / Chek Lap Kok Airport

(As Transport Bureau Confirmed to P.M.B. that Tsing Lung Bridge is to be Free)

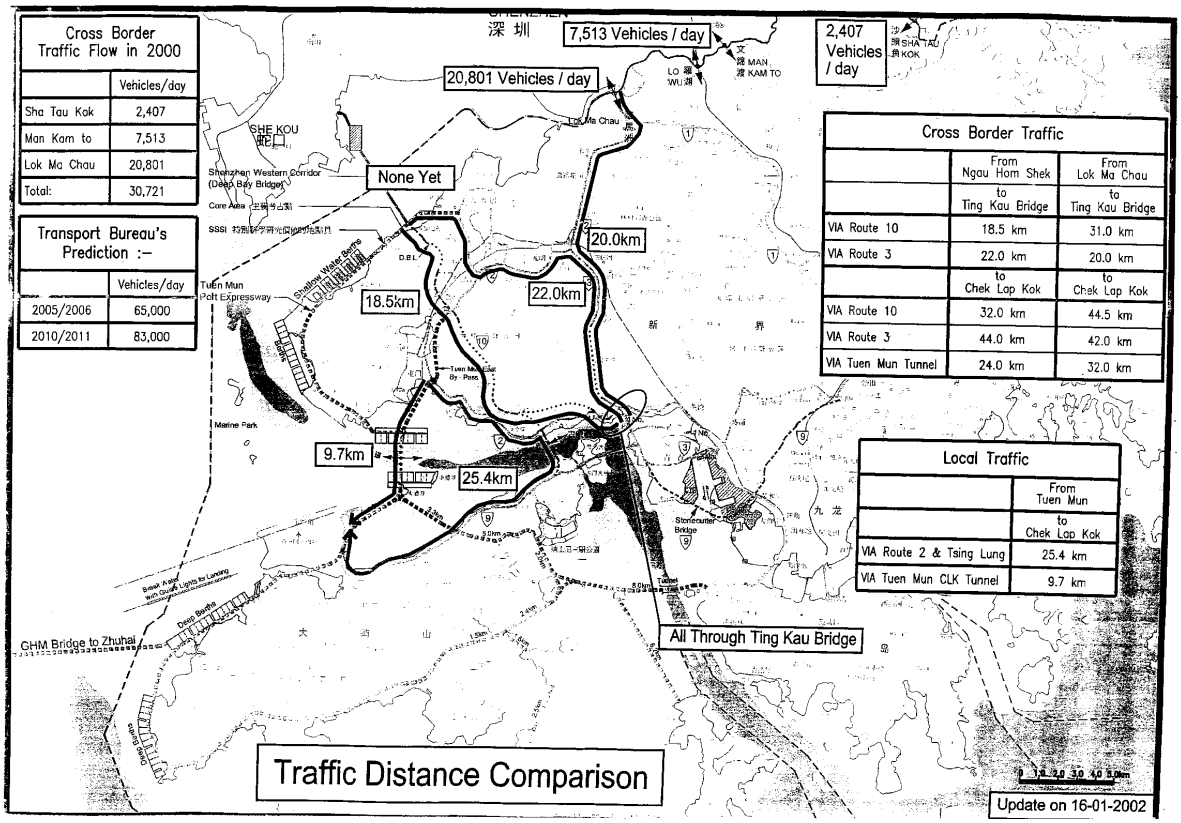


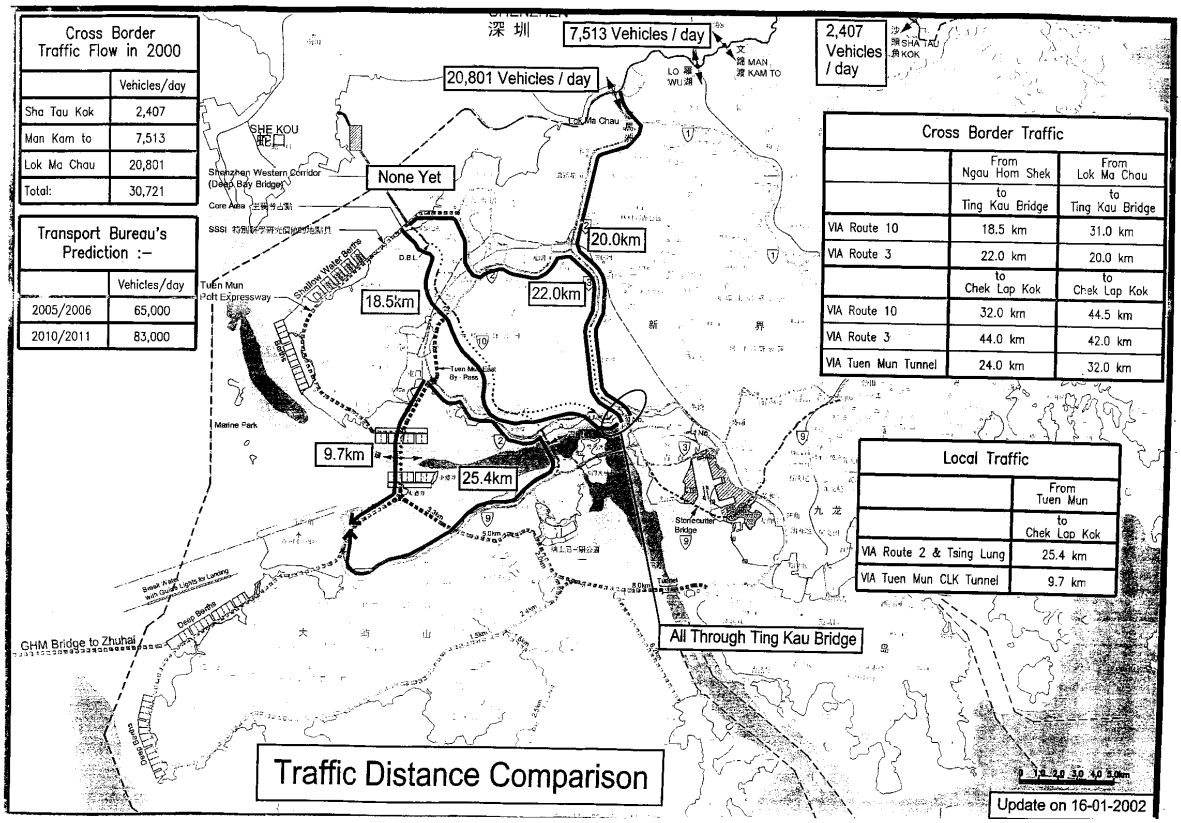
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Trucks*	12.86	15.15	17.00	19.23	21.32	21.92	22.44	23.40	23.39	24.31	25.75											
Passenger Vehicles**	0.66	0.78	0.94	0.87	1.02	1.26	1.97	2.77	3.37	3.98	5.06											
Total	13.51	15.93	17.94	20.10	22.35	23.19	24.41	26.17	26.76	28.29	30.80						65.00					83.00

* Trucks include Goods Vehicles and Containers

** Passenger Vehicles include Private Cars, Coaches and others

Source: Transport Monthly Digest of Statistics Dec 1990-2000


Cross Border Traffic Flow in 2000
Vehicles/day
Sha Tau Kok 2,407
Man Kam to 7,513
Lok Ma Chau 20,801
Total: 30,721
Transport Bureau's Prediction :-
Vehicles/day
2005/2006 65,000
2010/2011 83,000
7,513 Vehicles / day
20,801 Vehicles / day
2,407 Vehicles / day
None Yet
20.0km
22.0km
18.5km
9.7km
25.4km
All Through Ting Kau Bridge
GHM Bridge to Zhuhai
Cross Border Traffic
From Ngau Hom Shek to Ting Kau Bridge
From Lok Ma Chau to Ting Kau Bridge
VIA Route 10 18.5 km 31.0 km
VIA Route 3 22.0 km 20.0 km
From Ngau Hom Shek to Chek Lap Kok
From Lok Ma Chau to Chek Lap Kok
VIA Route 10 32.0 km 44.5 km
VIA Route 3 44.0 km 42.0 km
VIA Tuen Mun Tunnel 24.0 km 32.0 km
Local Traffic
From Tuen Mun to Chek Lap Kok
VIA Route 2 & Tsing Lung 25.4 km
VIA Tuen Mun CLK Tunnel 9.7 km
Traffic Distance Comparison
Update on 16-01-2002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Update on 16-01-2002

3 TOLL ADJUSTMENT MECHANISM: A WORKABLE ALTERNATIVE

If Hong Kong has to depend on Route #10 to solve its traffic problems, that means there is no help to our traffic or logistic business for the next 7 years.

What I have suggested is a time-proven principle of toll adjustment mechanism to entice a balanced and fuller use of existing facilities. This way:

- Hong Kong does not have to wait 7 years,
- The small enterprises of the truck drivers get a big help,
- The roads get fuller utilization, and
- Government saves some money!

This principle of toll balancing is not new:

- The municipality of Shanghai has applied this measure to its bridges and tunnels with great success.
- The Mass Transit Railway has rush hour & non-rush hour fares.
- Many restaurants charge lower prices on Happy Hours, and big discounts if you vacate the seats before lunch hour.
- Airlines charge seasonal peak and off peak fares.

If this principle is adopted, Hong Kong can alleviate the daily congestion of Hung Hom Tunnel, (the V/C ratio is well over 1.0 day in, day out) by a fuller utilization of the Eastern and Western Harbour Tunnels. Otherwise, we might be building a parallel tunnel next to Hung Hom Tunnel while the other 2 are still under utilized.

I have made this presentation to the Chief Secretary of Administration, and the following is his reply:

> **"..... I have read your proposals with interest. You have presented us with fresh ideas in looking at our future transport requirements and related developments. I have asked the bureau concerned to study them. ....."**

However, since the bureaucrat in-charge, the Secretary of Transport, has declined to even consider it, it appears that the Chief Secretary will miss the opportunity to judge whether it is a workable solution or not. Hong Kong will never reap the benefit of this mechanism.

4 MORE DETAILED RESPONSE

In response to the criticism of my presentations of December 17th 2001, particularly about the Tuen Mun East By-Pass and Tuen Mun Tunnel, I wish to state:-

A. TUEN MUN EAST BY-PASS

Route #2 utilized Castle Peak Road (a dual-two local road) through the busy Tuen Mun town centre. It is quite obvious that this is the most unsatisfactory portion of Route #2, as emphasized by the Tuen Mun District Council. It is long over due for improvement.

The Highways Department has great engineering and environment concerns about this Tuen Mun By-Pass as to whether it can be built. Since the Highways Department has no monopoly on the virtues of civil engineering, will the Transport Secretary ever consider an open competition when the world's talents at least have a chance to participate and contribute?

I categorically say that this 4km can be built, and can satisfy all the engineering and environment issues. Its completion is also the wish of the Tuen Mun District Council.

B. TUEN MUN TUNNEL

It is agreed that the CTS III report has this tunnel in mind, as illustrated in Plate #10 of my December 17th 2001 submission. This alignment is also shown on Page 16 of the January 11th 2002 Transport / Highways Department document.

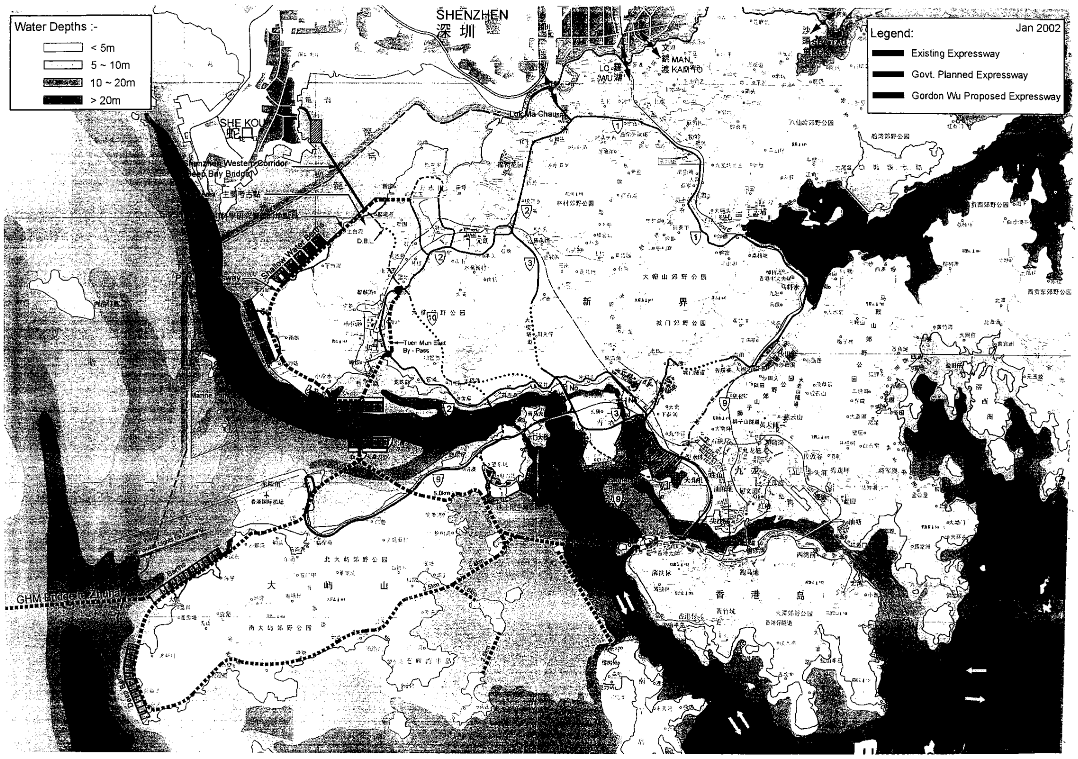
The differences between these proposals are:-

(B.1) PRIORITY

The Secretary said this tunnel should not be considered until 2016. I said it is due NOW as a more effective substitute for Tsing Lung Bridge.

(B.2) SHIP COLLISION IMPACT

The trestle bridge portion is entirely out of the shipping channel (because of shallow waters), not unlike that of the Kwun Tong By-Pass or East Island Corridor. The big ships will go aground before they hit the trestles. In any case, the Tuen Mun Southern By-Pass (as depicted on page 16 of the Highway Department Report) does not seem to worry Government engineers despite of similar problem.



Water Depths :-
< 5m
5 ~ 10m
10 ~ 20m
> 20m
SHENZHEN
深圳
SHE KOU
蛇口
Shenzhen Western Corridor
Deep Bay Bridge
Lok Ma Chau
D.B.L
Shallow Water Berths
Tuen Mun East
By - Pass
GHM Bridge to Zhuhai
Legend:
Jan 2002
Existing Expressway
Govt. Planned Expressway
Gordon Wu Proposed Expressway

Clearly, the Transport Bureau does not welcome any proposal or suggestion from the community. It seems evident that dual standards are the order of the day. If any proposal is outside the party line, then:

(1) Adopt a higher engineering standard (官字兩個口).
(2) More environment concerns
(3) Push up a higher cost
(4) Lengthen the estimated time of completion

so that the public will understand: "You can't fight city hall"

I rest my case.

Sir Gordon Y.S. Wu, KCMG
Fellow, Institution of Civil Engineers
Honorary Fellow, Hong Kong Institution of Engineers

January 17th 2002