

## ***Appendix 11.5.1***

---

***Site Survey Data on LPG and Petrol Throughput  
and Number of Vehicles Visiting the Stations***

#### **Appendix 11.5.1      Site Survey Data on LPG and Petrol throughput and the number of vehicles visiting the stations**

1. The LPG throughput and number of vehicle visiting the Petrol cum LPG filling stations / dedicated LPG filling stations are estimated based on the site survey conducted on 6 December 2007, 10 January 2008 and 2 April 2008 from 3pm to 6 pm. It is assumed that 60% of LPG taxies are refueled during the peak shift-change hours between 3pm and 6pm with reference to the Legislative paper "Comprehensive Control of Diesel Vehicle Emissions". [Paper No. CB(2)2280/99-00(02)]. The average consumption for LPG is estimated to be 50L per taxi and the LPG density is assumed to be 0.55kg/L.
2. Regarding the incentive scheme launched by the Government, it is assumed that 70% of the diesel light buses will switch to LPG light buses. There are about 6500 public light buses in Hong Kong. (i.e. about 4500 diesel light bus will switch to LPG ones). Moreover, it is assumed that LPG consumption of LPG light bus will be twice as LPG taxi. Therefore, a conservative assumption is made with the correction factor  $(18000 + 4500 \times 2)/18000$  (i.e. "number of LPG taxi + number of LPG light bus x 2 times of LPG consumption of a LPG taxi/number of LPG taxi") for extrapolating the future LPG consumption.
3. Nevertheless, as commented by EMSD, the correction factor 1.5 is not absolutely applicable. As the site survey has actually take into account the number of LPG mini buses and the incentive scheme for replacing diesel light buses with LPG ended in 2005, a 5% increase in the number of LPG light buses is recommended. The factor of 5% increase in number of LPG minibuses is applied to Station 7.
4. For the daily number of petrol vehicles visiting the Petrol cum LPG filling stations, it is estimated based on the site survey conducted on 6 December 2007, 10 January 2008 and 2 April 2008 from 3pm to 6 pm with an assumption of traffic Day/Night ratio being 7:3.

**Table 1 Raw Data of Traffic Survey**

<b>Site:1</b>	Wang Chin Street (Kowloon Bay) Petrol cum LPG Filling Station [Sinopec]		<b>Date:</b> 6 Dec 2007
TIME (mins)	Number of Vehicles refueling		
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>
15:00 - 15:20 (20)	9	0	4
15:45 - 16:05 (20)	18	0	6
<b>Avg (vehicle/hr)</b>	41	0	15

<b>Site:2</b>	4 Kai Fuk Road, Kowloon Bay (West Bound) [ExxonMobil]		<b>Date:</b> 6 Dec 2007
TIME (mins)	Number of Vehicles refueling		
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>
15:25 - 15:45 (20)	18	0	16
15:55 - 16:15 (20)	17	0	19
<b>Avg (vehicle/hr)</b>	53	0	53

<b>Site:2</b>	4 Kai Fuk Road, Kowloon Bay (West Bound) [ExxonMobil]		<b>Date:</b> 2 April 2008
TIME (mins)	Number of Vehicles refueling		
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>
15:00-15:30 (30)	8	0	24
15:30-16:00 (30)	7	1	27
16:00-16:30 (30)	20	0	31
16:30-17:00 (30)	26	1	32
17:00-17:30 (30)	24	0	28
17:30-18:00 (30)	19	2	35
<b>Avg (vehicle/hr)</b>	35	1	52

<b>Site:3</b>	8 Kai Fuk Road, Kowloon Bay (West Bound) [Shell]		<b>Date:</b> 6 Dec 2007
TIME (mins)	Number of Vehicles refueling		
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>
15:25 - 15:45 (20)	9	0	7
15:55 - 16:15 (20)	15	0	10
<b>Avg (vehicle/hr)</b>	36	0	26

**Table 1 Raw Data of Traffic Survey (con't)**

<b>Site:4</b>	7 Kai Fuk Road, Kowloon Bay (East Bound) [ExxonMobil]		<b>Date:</b> 6 Dec 2007
TIME (mins)	Number of Vehicles refueling		
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>
15:00 - 15:15 (15)	0	0	11
15:30 - 15:45 (15)	3	0	11
<b>Avg (vehicle/hr)</b>	6	0	44

<b>Site:4</b>	7 Kai Fuk Road, Kowloon Bay (East Bound) [ExxonMobil]		<b>Date:</b> 2 April 2008
TIME (mins)	Number of Vehicles refueling		
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>
15:00-15:30 (30)	1	0	25
15:30-16:00 (30)	9	1	26
16:00-16:30 (30)	18	1	31
16:30-17:00 (30)	34	2	30
17:00-17:30 (30)	43	2	31
17:30-18:00 (30)	22	1	36
<b>Avg (vehicle/hr)</b>	45	3	54

<b>Site:5</b>	5 Kai Fuk Road, Kowloon Bay (East Bound) [Shell]		<b>Date:</b> 6 Dec 2007
TIME (mins)	Number of Vehicles refueling		
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>
15:15 - 15:30 (15)	8	0	12
15:45 - 16:00 (15)	23	0	13
<b>Avg (vehicle/hr)</b>	62	0	50

**Table 1 Raw Data of Traffic Survey (con't)**

<b>Site:6</b>	Wai Lok Street Dedicated LPG Filling Station , Kwun Tong [Sinopec]		<b>Date:</b>	6 Dec 2007
TIME (mins)	Number of Vehicles refueling			
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>	
15:20 - 15:40 (20)	109	0		
15:40 - 16:00 (15)	93	0		
16:00 - 16:20 (20)	97	0		
<b>Avg (vehicle/hr)</b>	299	0		

<b>Site:7</b> Day 1	Cheung Yip Street Dedicated LPG Filling Station , Kowloon Bay[Sinopec]		<b>Date:</b>	6 Dec 2007
TIME (mins)	Number of Vehicles refueling			
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>	
15:20 - 15:40 (20)	101	2		
15:40 - 16:00 (15)	91	0		
16:00 - 16:20 (20)	93	0		
<b>Avg (vehicle/hr)</b>	285	2		

<b>Site:7</b> Day 2	Cheung Yip Street Dedicated LPG Filling Station , Kowloon Bay[Sinopec]		<b>Date:</b>	10 Jan 2008
TIME (mins)	Number of Vehicles refueling			
	<b>Taxi (LPG)</b>	<b>Mini Bus (LPG)</b>	<b>Other (Petrol)</b>	
15:00 - 15:30 (30)	52	1		
15:30 - 16:00 (30)	54	2		
16:00 - 16:30 (30)	57	1		
16:30 - 17:00 (30)	54	0		
<b>Avg (vehicle/hr)</b>	109	2		

**Table 2 LPG throughput and number of vehicles visiting the stations**

Type	No.	Address	Company	Estimated Annual LPG Throughput (tonnes)	Estimated Number of LPG Tankers visiting the Station (per year)	Estimated Number of Vehicles visiting the Station (per day)	
						For LPG refuel	For LPG and Petrol refuel
Petrol cum LPG Filling Stations	1	Wang Chin Street, Kowloon Bay	Sinopec	3087	343	205	462
	2	4 Kai Fuk Road, Kowloon Bay (West Bound)	ExxonMobil	1857	207	180	1192
	3	8 Kai Fuk Road, Kowloon Bay (West Bound)	Shell	2710	301	180	626
	4	7 Kai Fuk Road, Kowloon Bay (East Bound)	ExxonMobil	2560	285	240	1286
	5	5 Kai Fuk Road, Kowloon Bay (East Bound)	Shell	4667	519	310	1167
Dedicated LPG Filling Stations	6	Wai Lok Street, Kwun Tong	Sinopec	22509	2501	1495	1495
	7	Cheung Yip Street, Kowloon Bay	Sinopec	10089	1121	984	984