

## **Legislative Council Panel on Transport**

### **Report on Parking Demand and Supply and Progress of Improvement Measures**

#### **1. PURPOSE**

This paper:-

- (i) presents the latest demand and supply situation of parking spaces in the territory;
- (ii) reports on the progress of implementation of on-going remedial measures recommended in the Parking Demand Study (PDS) and the parking related measures recommended in the Freight Transport Study (FTS); and
- (iii) reports on new initiatives to address parking related problems.

#### **2. BACKGROUND**

- 2.1 The FTS commenced in June 1991 and was completed in April 1994. The objective of the study was to devise appropriate measures to improve the efficiency of the freight transport industry. The recommendations of the FTS were presented to LegCo Panel on Transport in June 1994. The PDS, which began in October 1993, aimed to provide an inventory of parking and loading/unloading facilities, identify the scale of parking related problems and recommend remedial measures. The PDS was completed in December 1995 and the study findings were presented to LegCo Panel on Transport in February 1996. Since then, a progress report on the implementation of the recommendations of the two studies and an update of the parking demand and supply situation have been presented to LegCo Panel on Transport every year with the last update in October 1998.

- 2.2 The recommendations of the two studies, modified where necessary in light of experience, continue to be pursued by an inter-departmental Working Group.

### **3. LATEST DEMAND AND SUPPLY OF PARKING SPACES**

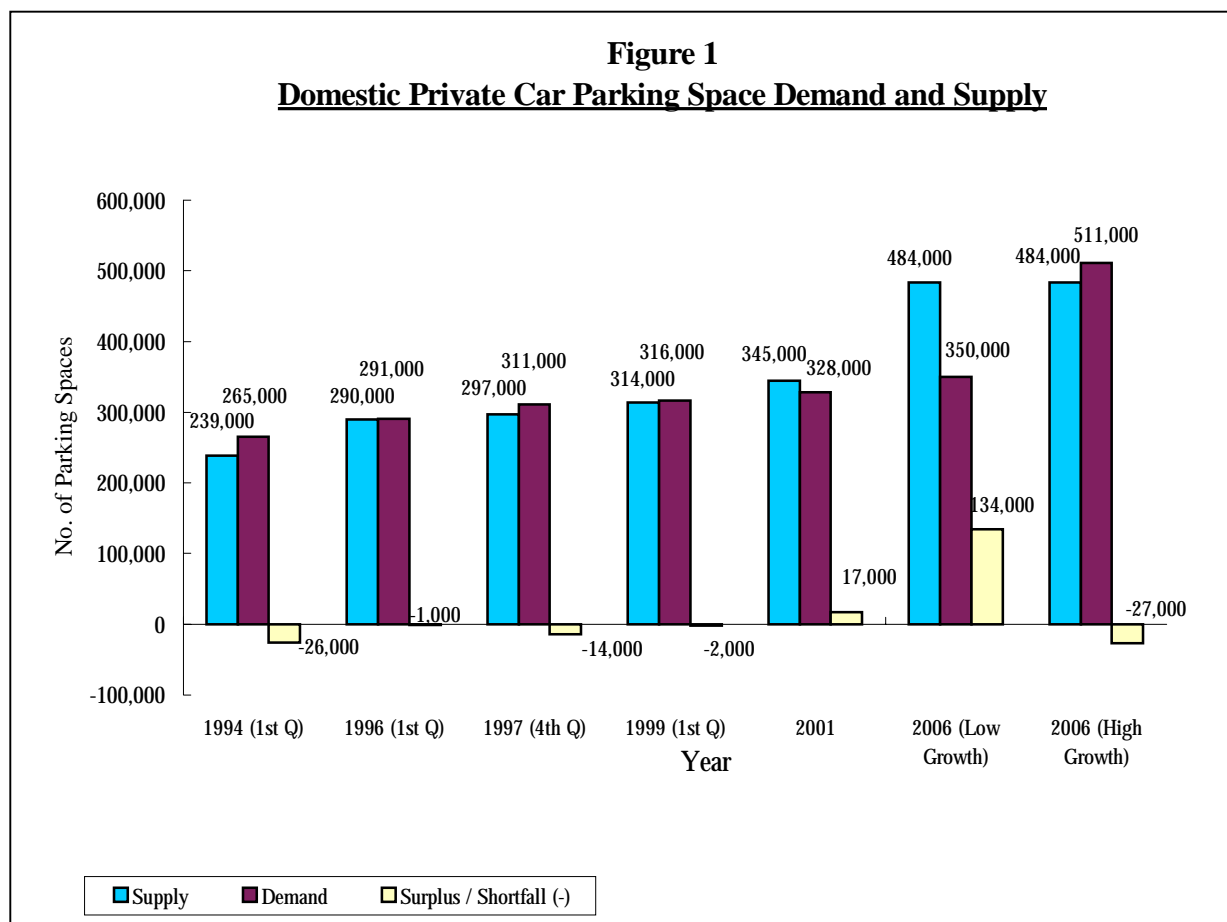
- 3.1 The demand for parking spaces of each category of vehicle is closely related to its fleet size. The total number of licensed vehicles is about 500,000, of which 63.6% are private cars, 22.8% are goods vehicles, 4.8% are motorcycles and 3.6% are taxis. The remaining categories combined represent less than 6% of the total fleet.
- 3.2 The PDS demand model was developed to estimate parking demand for private cars and goods vehicles which together constitute around 86% of the total vehicle fleet. The majority of figures presented in this paper therefore relate to those vehicle classes. However, as a result of the growing concern over parking facilities for motorcycles, coaches, public light buses and taxis, the problems relating to these vehicles are also addressed in the paper, though necessarily somewhat more qualitatively.

#### Private Cars

- 3.3. All private cars require a parking space at the place of residence (domestic). Additional parking spaces are required to serve the non-home end of car trips at places such as offices, shops and places of entertainment (non-domestic). The domestic and non-domestic situations are considered separately in the following paragraphs.

#### Domestic

- 3.4 The domestic private car parking space demand and supply situation is shown in Figure 1. In 1999, the demand for domestic private car parking spaces was 316,000, up by 5,000 from 1997. In the same period the supply has grown by 17,000 spaces thus reducing the shortfall from 14,000 in 1997 to 2,000 in 1999.
- 3.5. Between 1999 and 2001, it is anticipated that the supply of parking spaces will increase more than the demand, resulting in a surplus of 17,000 in 2001.

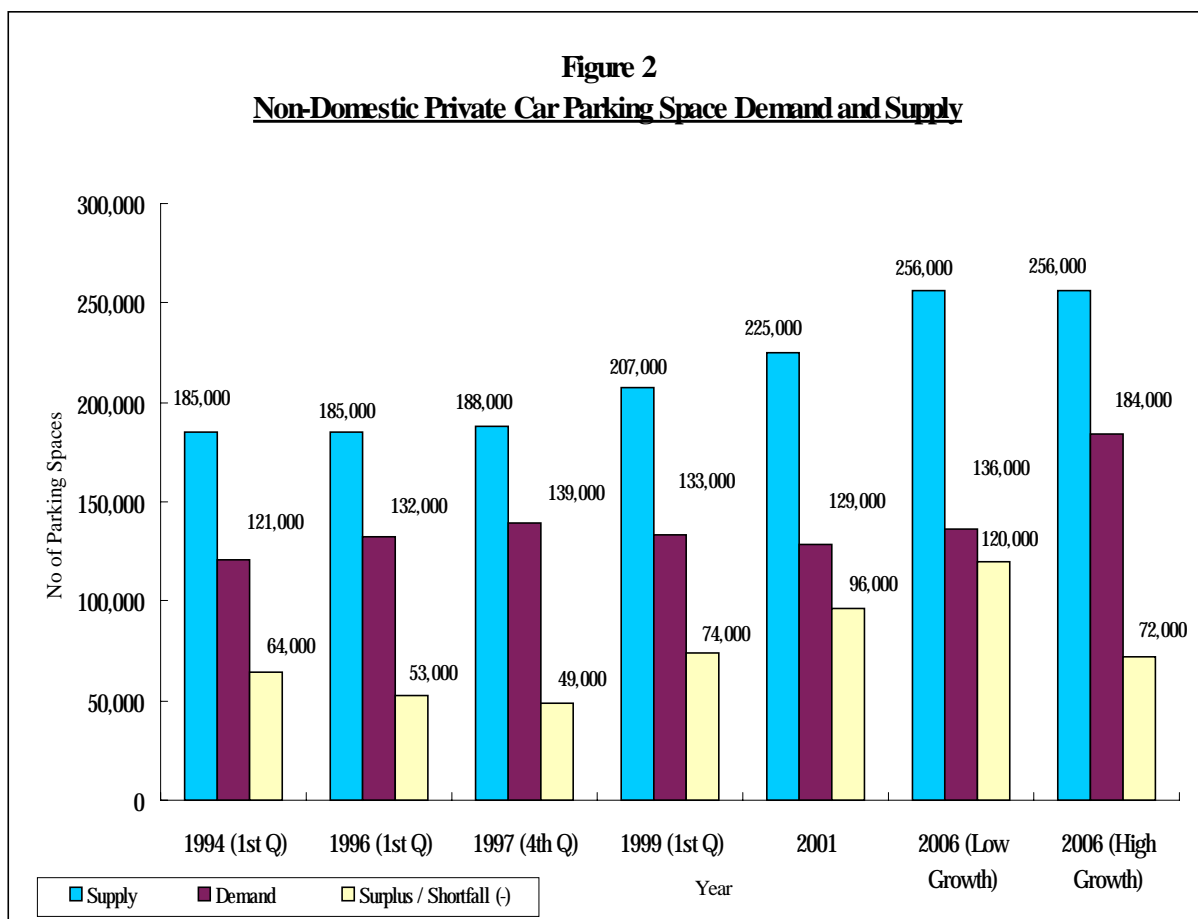


3.6 For 2006, two forecasts of demand have been made, using a high growth rate and a low growth rate for fleet size, in accordance with the Third Comprehensive Transport Study (CTS-3). On the supply side, domestic private car parking spaces are expected to increase significantly as a result of the completion of residential flats with parking provision. The forecast of the parking situation in 2006 ranges from a surplus of 134,000 spaces to a shortfall of 27,000 spaces based on the low and high growth scenarios respectively. The wide range of shortfall/surplus results from adopting the very different fleet size forecasts in the CTS-3, whilst keeping the supply forecasts constant. In the intervening years, as the likely fleet size becomes more clear, the supply of spaces would be adjusted to avoid these excesses of surplus/shortfall.

3.7 In respect of the territory-wide situation therefore for domestic private car parking there is generally an overall surplus. However some districts, notably Eastern, Tuen Mun and Yuen Long have a shortfall of spaces. As a result of the increase in spaces, the situation is expected to improve with only Eastern District continuing to have a shortfall of spaces by 2006 under the low growth scenario.

Non-domestic

3.8 For the non-domestic demand and supply forecast, as indicated in Figure 2, there is a persistent surplus of parking spaces over the years of assessment, rising from a surplus of 64,000 in 1994 to a predicted 120,000 in 2006 for the low growth scenario and 72,000 for the high growth scenario. In line with the overall territory-wide surplus there are no districts with significant shortfalls of non-domestic private car parking spaces. However, within some districts there are popular local areas where, at certain times, demand still exceeds supply. For example, although there is a surplus of spaces in Wan Chai District as a whole, demand for spaces in the busy shopping areas of Causeway Bay exceeds the available supply on Sunday afternoons.

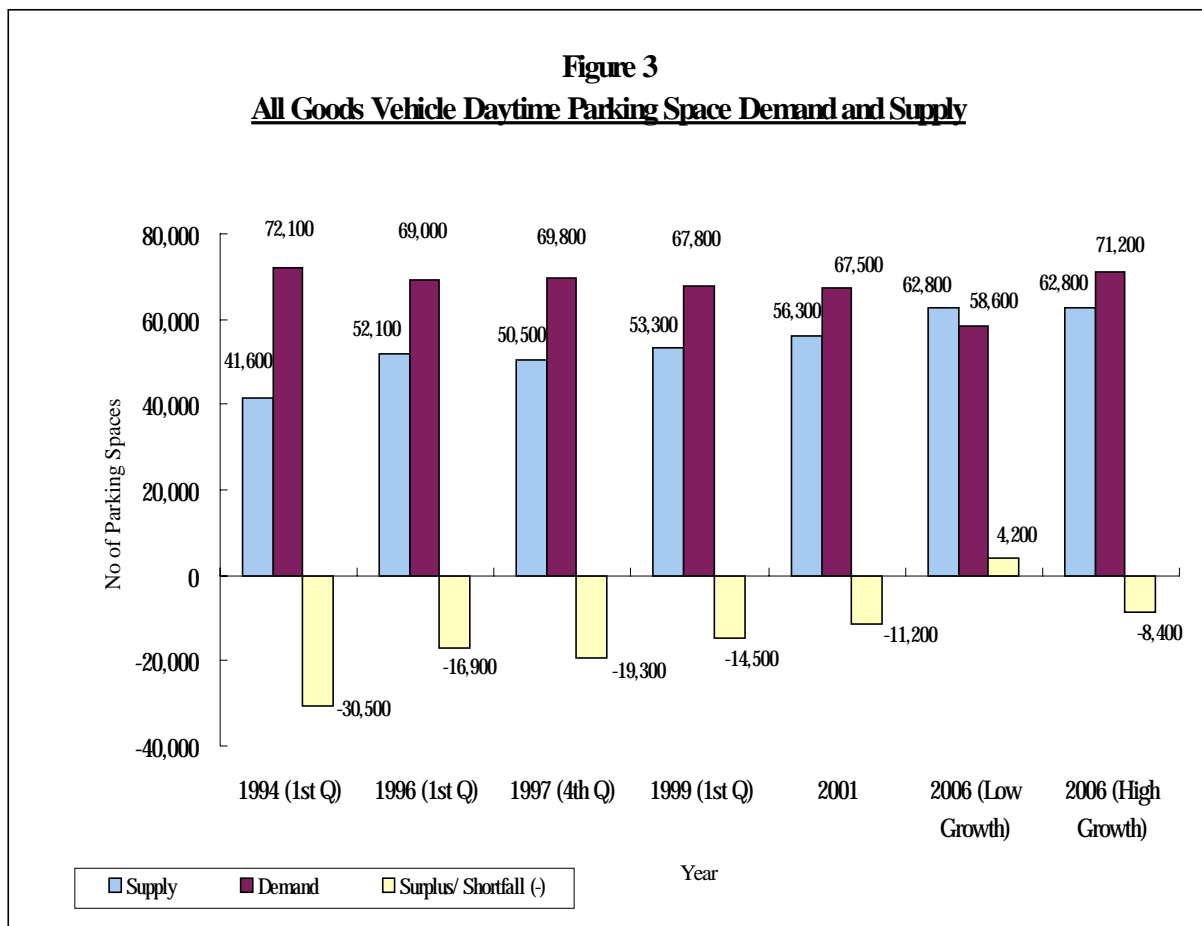


Goods Vehicles

3.9 As with private cars, it is necessary to assess both the day time situation and the overnight situation. Two scenarios of low and high growth of vehicle fleet size, in line with CTS-3 tests, have been assessed.

Daytime

3.10 The day time demand and supply situation for goods vehicle parking spaces is shown in Figure 3. During the day the majority of the goods vehicle fleet are on the move and the demand for parking spaces is much less than at night time. Nevertheless, there is shortfall of spaces which has gradually reduced from 30,500 in 1994 to 14,500 in 1999. The shortfall will be further reduced to 8,400 spaces by 2006 on the high growth scenario, and on the low growth scenario, there will be a surplus of 4,200 spaces.

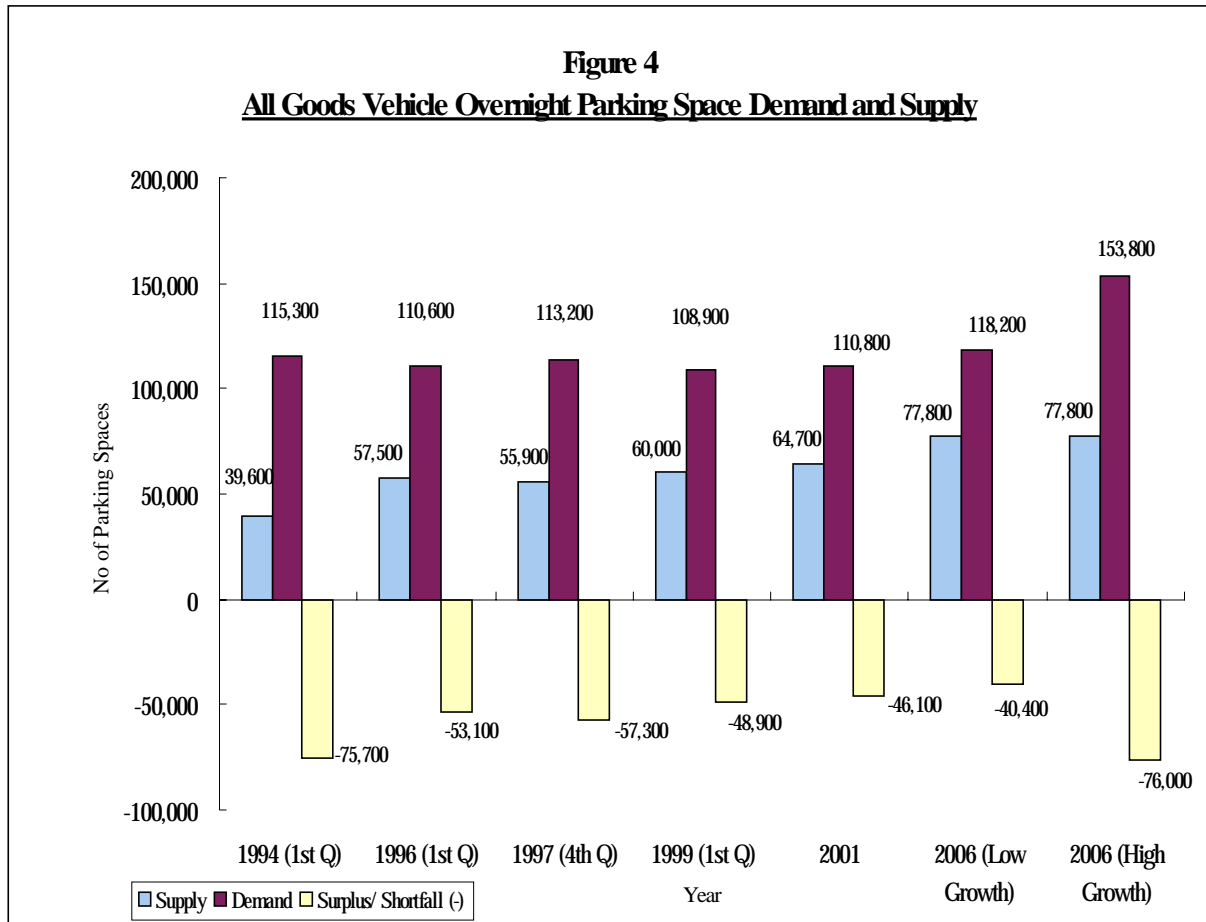


Overnight

3.11 During the night nearly all goods vehicles are inoperative and require a parking space. The demand for spaces is therefore closely related to the goods vehicle fleet size. Over recent years, the number of goods vehicles has dropped from 124,000 in 1994 to 114,000 in 1999.

3.12 It can be seen from Figure 4 that as a result of the increase in supply of spaces and decrease in the goods vehicle fleet size, the theoretical shortfall

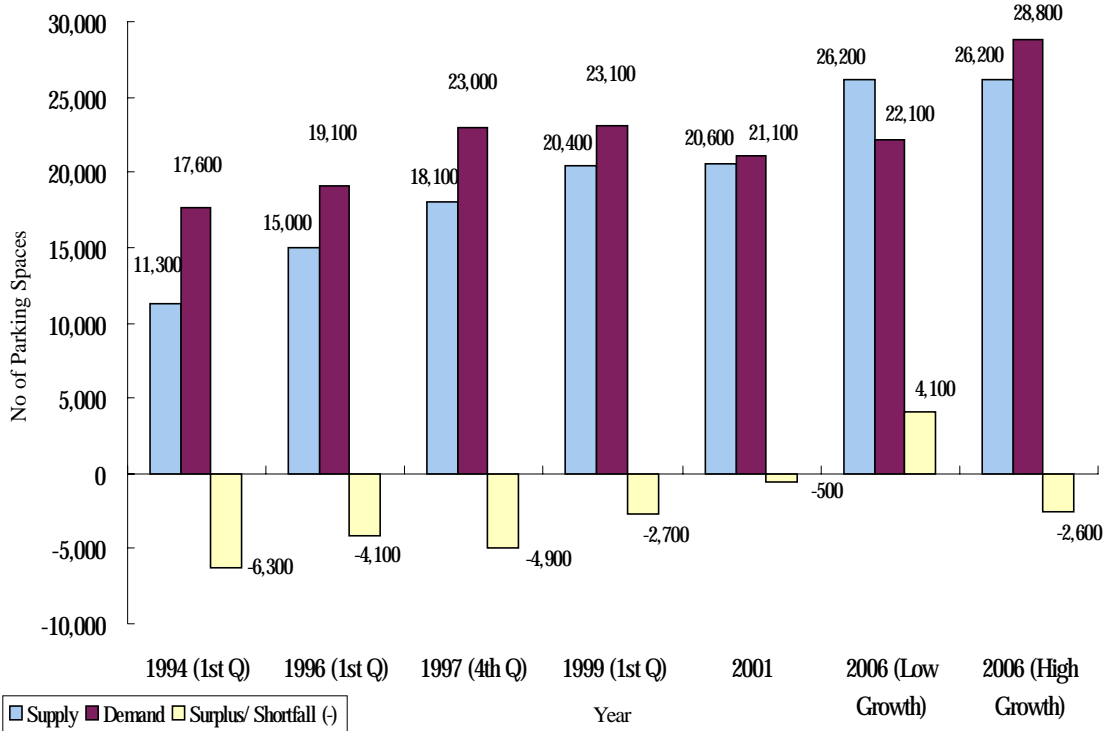
of spaces has reduced from 75,700 in 1994 to 48,900 in 1999. Based on the growth of fleet size contained in CTS-3, the forecast shortfalls are expected to be 40,400 and 76,000 in 2006 under the low and high growth scenario respectively.



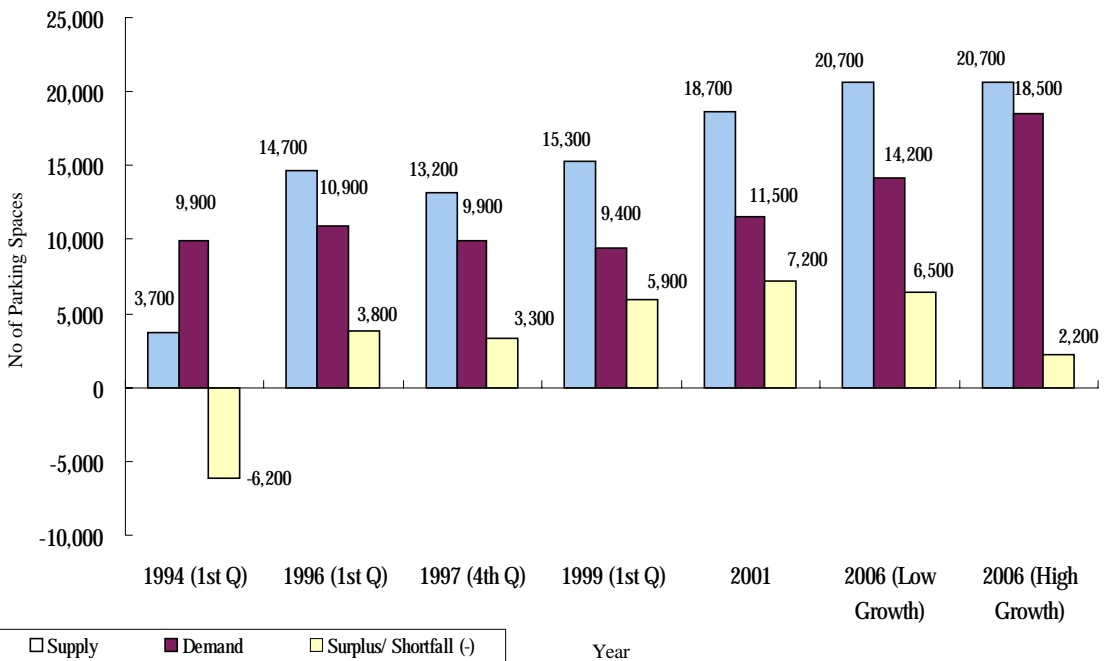
3.13 In terms of their parking space requirements, goods vehicles can be subdivided into Light Goods Vehicles (LGVs), Medium and Heavy Goods Vehicles (M/HGVs) and Container Vehicles (CVs). The supply of and demand for parking spaces also varies between these different categories of goods vehicles. To properly appreciate the real problems therefore, it is necessary to separately examine each category. As the overnight situation is by far the most critical, this further detailed examination is focused on this problem.

3.14 In 1999 and 2001, there is a relatively small shortfall of M/HGV spaces (Figure 5) which is largely off-set by a surplus of spaces for CVs (Figure 6). For 2006, there is only a shortfall of M/HGV spaces in the high growth scenario and similarly this is largely offset by the surplus of CV spaces. For the low growth scenario both M/HGV and CV show a surplus of spaces. The overall shortfall of spaces is therefore largely a problem relating to LGVs.

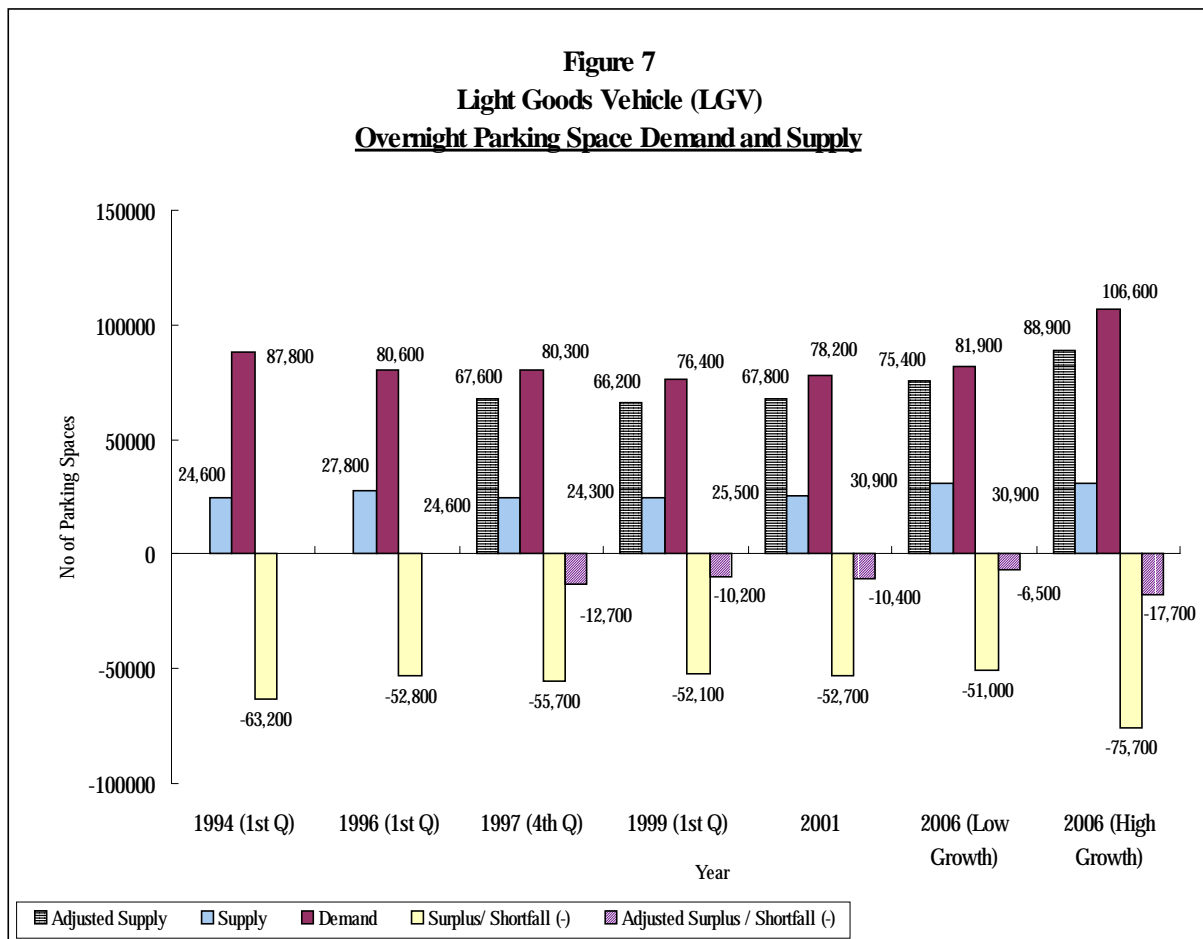
**Figure 5**  
**Medium/Heavy Goods Vehicle (M/HGV)**  
**Overnight Parking Space Demand and Supply**



**Figure 6**  
**Container Vehicle (CV)**  
**Overnight Parking Space Demand and Supply**



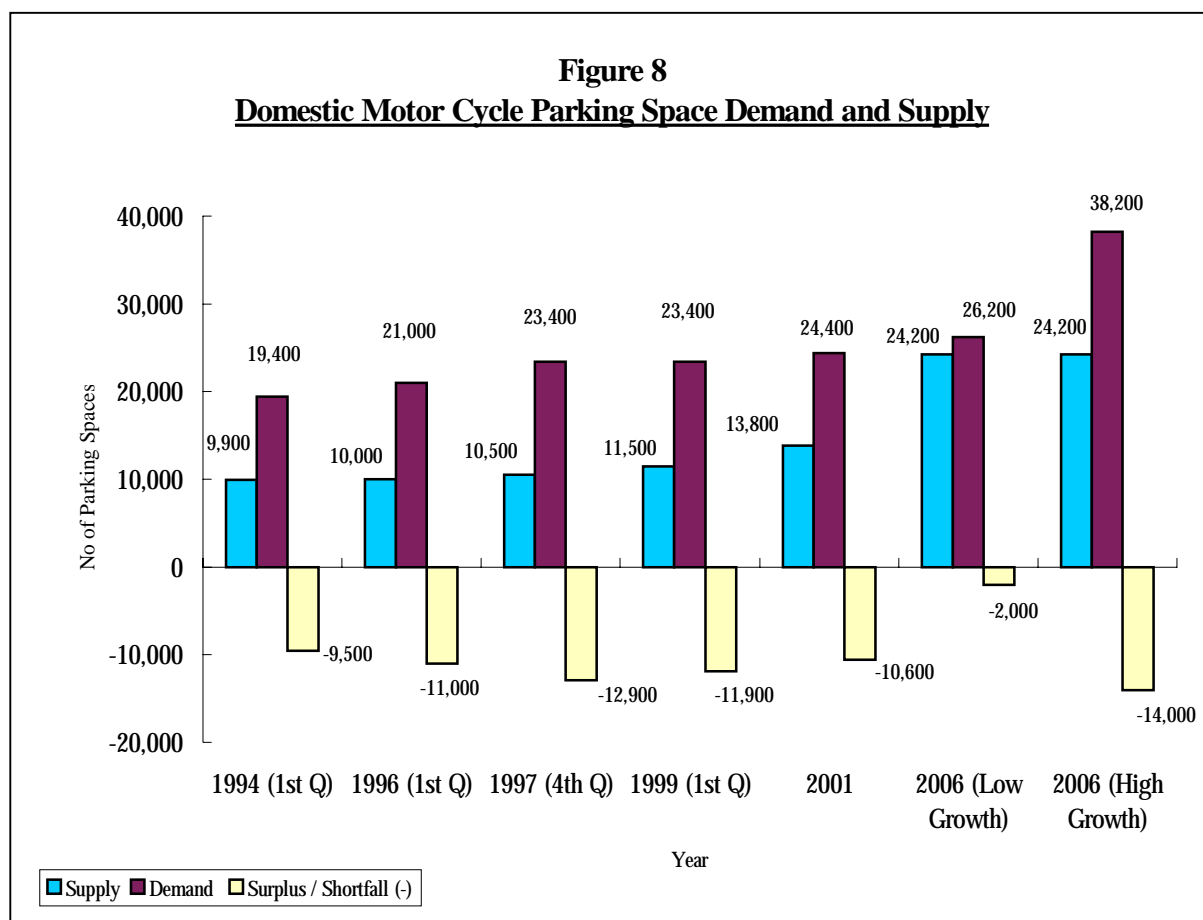
3.15 As depicted in Figure 7, in 1999, there is a theoretical shortfall of 52,100 LGV spaces and the shortfall is expected to remain constant up to 2001 and to range between 51,000 (low growth) and 75,700 (high growth) spaces by 2006. However, the actual shortfall is not as bad as it appears. In 1999, the LGV fleet size was 76,400 of which around 41,900 were light vans. Generally, light vans are small enough to park in private car spaces. It is likely therefore that these vehicles have made use of the 74,000 surplus non-domestic private car parking spaces (see Figure 2). By utilizing the non-domestic private car parking spaces, it is estimated that the actual shortfall of LGV parking spaces in 1999 is about 10,200. Using the same method of assessment the actual shortfall in 2001 is expected to be 10,400 whilst in 2006, the shortfall should be around 6,500 and 17,700 under the low and high growth scenarios respectively.

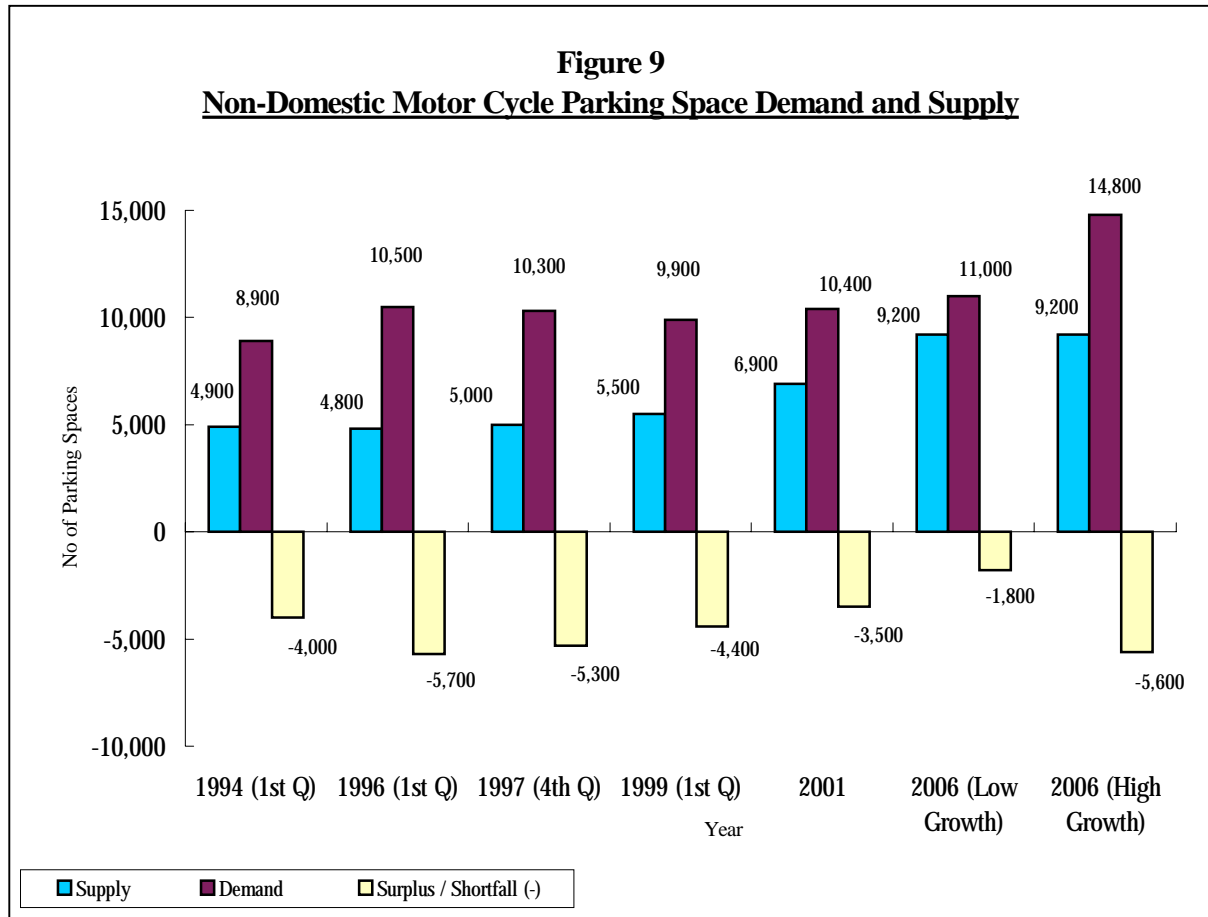




Motorcycles

3.16 The supply of motorcycle parking spaces is forecast to increase significantly by 2006 as the Hong Kong Planning Standards and Guidelines (HKPSG) have been revised to require additional motorcycle parking spaces at 5 to 10% of the total provision for private cars in new developments. However, as shown in Figures 8 and 9, both the domestic and non-domestic demand in the next seven years are expected to increase more sharply than the supply, thus pushing the respective shortfalls from 11,900 and 4,400 in 1999 to about 14,000 and 5,600 in 2006 under the high growth scenario and 2,000 and 1,800 under the low growth scenario.





### Coaches

3.17 The concerns raised by trade operators have drawn our attention to the demand for coach parking spaces. From 1994 through 1999, the demand for spaces has varied between 4,200 and 5,900 whereas the supply has varied between 1,200 and 2,700 spaces, resulting in a consistent shortfall of over 3,000 parking spaces. Future demand for parking spaces would depend on the growth of the fleet size and the extent of recovery of the tourist industry.

### Taxis

3.18 Over the last five years the licensed fleet sizes of Urban, New Territories and Lantau Taxis have remained fairly constant at around 15,200, 2,800 and 50 respectively. In relation to taxi parking, it is worthwhile to note that it is a licensing requirement that each of them should have their own parking space. The special requirements of taxis involve the need for

parking spaces to facilitate change of shifts, lunch breaks and toilet breaks.

### Public Light Buses (PLB)

3.19 PLBs comprise the Red Mini-Bus (RMB) and the Green Mini-Bus (GMB). As of 1976, Government has decided to maintain the total number of PLBs at 4350 and gradually replace RMB by GMB. The demand for PLB parking spaces is therefore stable. On the supply side, PLBs can park on STT sites and on-street parking spaces designated for motor vehicles other than motorcycles, medium and heavy goods vehicles and buses. PLBs can legally park at PLB stands where such stands are so designated.

### Illegal On-street Overnight Parking Survey

3.20 The assessment of demand for and supply of parking spaces as presented in the previous paragraphs has been theoretical. The theoretical shortfall of spaces should be evident on the ground by the presence of illegally parked vehicles on our streets. To verify the figures therefore a survey of illegal on-street parking was conducted during July 1999. The survey was conducted around midnight so that the most critical situation could be captured. The results of the survey as compared with the theoretical assessment are as follows:-

	<b>1999 Assessment on Shortfall of Overnight Spaces</b>	<b>1999 Survey on Illegally Parked Vehicles</b>
Private Cars	2,000	7,400
Motorcycles	11,900	0
Coaches	3,200	600
Public Light Buses	1,600	800
Light Goods Vehicles	10,200	2,900
Medium/Heavy Goods Vehicles	2,700	1,400
Container Vehicles	5,900 (surplus)	1,200

3.21 The results of the survey indicate that the shortfall for goods vehicles is not as serious as the theoretical assessment suggests. This is largely because the theoretical assessment only takes account of the inventory of legitimate parking spaces on the supply side. In actual fact, vehicles are also accommodated in such places as wholesale markets, factories, spare land adjacent to village development and non-government land awaiting permanent development (unregistered sites see para. 3.22). Although these vehicles are not occupying legitimate parking spaces, they are generally not causing any problems. The survey also indicated that illegal parking was not more prevalent in those districts with the largest theoretical shortfall. This is an indication that vehicles will illegally park in areas where they cause least obstruction rather than in those areas corresponding to their real place of demand.

#### Unregistered Sites Survey

3.22 To quantify the number of spaces on such sites, a comprehensive survey covering the whole territory was conducted between May and August 1999. The results of the survey are presented below:

<b>Vehicle Category</b>	<b>Parking Spaces Available at Unregistered Sites</b>
Private Cars	8,200
Motorcycles	*
Coaches	400
Light Goods Vehicles	1,000
Medium/Heavy Goods Vehicles	2,000
Container Vehicles	2,300

Legend: \* : No motorcycles were found parked at such sites

### Utilisation Rate of Short Term Tenancy (STT) Sites Overnight Parking Survey

3.23 A further indication of the seriousness of the shortfall situation can be ascertained from consideration of the overnight utilisation rate of STT sites. A survey was conducted in August 1999 and the results reveal that the night time utilisation rate at STT sites is about 75%, leaving about 295,000 sq m of space available for parking. This amount of non-used land is capable of accommodating for example 11,800 private cars or 7,400 light goods vehicles or 3,300 container vehicles.

## **4. ON-GOING REMEDIAL MEASURES TO ADDRESS THE SHORTFALL**

4.1 The review indicates that the on-going remedial measures as recommended in the PDS and FTS are effective in increasing the supply of parking spaces and preventing the shortfall from deteriorating. Results of the most important recommendations are described below.

### Revision of the Hong Kong Planning Standards and Guidelines (HKPSG)

4.2 HKPSG was revised in October 1996. The major objectives in this revision were to increase the provision of parking spaces for private cars and goods vehicles and establish a requirement for motorcycle spaces. Comparison of the total supply figures between 1997 and 1999 indicates that the number of parking spaces for private cars (domestic), motorcycles (domestic) and goods vehicles (overnight) have increased by 17,000, 1,000 and 4,100 respectively. These net increases are largely the result of new developments, built to HKPSG standards, being completed.

### Construction of multi-storey or underground car/vehicle parks (MSVP)

4.3 It is Government policy to encourage provision of parking spaces in joint-user buildings through the Land Sales/Development Programme. In exceptional circumstances where sufficient spaces otherwise cannot be provided, Government would consider funding car parks at sites zoned for community or GIC developments. Progress over the last year is as follows:

- (i) One site at Sha Tau Kok, Fanling, which will provide 200 private car, 40 LGV, 10 M/HGV and 10 MC spaces, has been sold in June 1999. Seven sites for building MSVPs remain in the Land Sales/Development Programme. Together, these sites will provide 728 private car, 710 LGV, 140 M/HGV, 60 MC and 20 coach parking spaces.
- (ii) The Government is planning the construction of a car park (two level underground and an open-air roof top) cum public transport terminus at Stanley Village Road. The project will provide about 225 private car parking spaces upon completion.

#### On-street overnight parking for goods vehicles

4.4 Between 1998 and 1999, 119 on-street overnight goods vehicle parking spaces have been implemented. The total number of such spaces now stands at 1219.

#### Use of Short Term Tenancy sites for parking

4.5 The total area of the STT parking sites rose from 1,176,000 sq m in mid 1998 to 1,179,000 sq m in mid 1999. According to the utilization rate survey, there were vacant spaces on STT sites throughout the territory. We will, however, continue to review the situation on a local basis.

#### Use of the opportunity afforded by redevelopment proposals to require the developer to provide publicly available parking places

4.6 Lands Department, upon the advice of Transport Department, can ask developers to provide more parking spaces when their developments require modification in the lease conditions, provided that the total GFA is still within the maximum plot ratio stipulated in the Buildings Ordinance. At present, 7 cases have been executed and 5 more are under processing, which together can provide 872 private car, 15 coach, 140 LGV and 392 other goods vehicle parking spaces.

### Park and Ride (PnR)

4.7 The intention of PnR is to encourage motorists to switch to public transport at strategic locations, using railway stations as the hub. In addition to relieving the parking demand at central business districts, this measure can also relieve traffic congestion along the main corridors and improve the environment due to less road travelling. Progress is as follows:

- (i) The Sheung Shui PnR Trial Scheme, which started in December 1997 with 170 parking spaces reserved for PnR, has been quite successful and we intend to continue with the scheme up to 2002.
- (ii) PnR provisions are being investigated at Tuen Mun, Tin Shui Wai, Kam Sheung Road and Tsuen Wan West as part of the KCRC West Rail Phase 1 Project Detailed Design Contract.
- (iii) Other PnR facilities under consideration include Lee On Station of the Ma On Shan Rail and a commercial site in Area 66 Tseung Kwan O in connection with the MTR Tseung Kwan O Extension.

### Use of daytime parking facilities in Government Buildings for public overnight parking

4.8 In addition to car parks at Central Government Offices, Queensway Government Offices, Murray Building, and Wanchai Towers, car parks at North Point and Northern District Government Offices have also been opened for commercial operation after office hours, providing 200 additional private car spaces. The total number of such spaces now stands at 831 private car and 36 motorcycle spaces.

### Advance Information Systems

4.9 One of the objectives of these systems is to provide motorists with relevant carparking information, enabling them to change mode or trip destination early enough so as to avoid areas where parking facilities are already full. This measure will be considered in TD's Feasibility Study on Transport Information System which started in August 1999.

## **5. NEW INITIATIVES TO ADDRESS THE SHORTFALL**

To address the various parking related problems, in addition to pursuing the recommendations described above, the following new initiatives are recommended:

### Flexible application of the HKPSG

- 5.1 Whilst continuing to use the HKPSG as a guideline, specified parking requirements for particular classes of vehicle in particular developments should reflect the forecast demand supply figures, and may be set outside the HKPSG specified range.

### Further revisions to the HKPSG

- 5.2 In view of the territory wide shortfall, consideration should be given to specifying provision for motorcycles consistently at the top of the range. Consideration should also be given to requiring provision for light goods vehicle parking in HOS and R1 developments, in addition to the existing requirements in public rental estates.

### Overnight parking in Government Office Car Parks

- 5.3 The scheme described in para. 4.8 should be extended to include goods vehicles wherever possible.

### Additional Parking Spaces for Taxis

- 5.4 Additional parking spaces for taxis have already been implemented through the introduction of concessionary monthly parking tickets at government car parks. Designation of selected taxi stands for parking during less busy night time hours and provision of short-term parking spaces in the immediate vicinity of public toilets are under consideration.

### Additional Parking Spaces for PLBs

- 5.5 Additional parking spaces for PLBs should be created through increasing the number of stands for overnight parking, designation of short-term



parking spaces at the rear part of PLB stands, lengthening of PLB and GMB stands and provision of overnight parking spaces for GMBs at public transport interchanges.

#### Additional Parking Spaces for Rehabus

5.6 Additional spaces for Rehabus should be provided through designation of some strategically located on-street and off-street spaces.

### **6. CONCLUSION**

6.1 The adopted recommendations of the PDS and FTS are effective in addressing the various parking related problems and the Working Group on Parking will continue to pursue these measures. During the next year the new initiatives described above will receive the particular attention of the Working Group.

Transport Department  
December 1999