<u>For information</u>
(At Meeting of 15.12.2000)

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 Members 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 Members 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 Members every year with the last update in December 1999.

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

2.3 Having regard to the changes in circumstances since the completion of the PDS and the need to review current parking strategy to dovetail with the findings/recommendations in the Third Comprehensive Transport Study (CTS-3), the Second Parking Demand Study (PDS-2) was commissioned in May 2000. The Study will provide a more updated estimate of the parking situation in the next 10 years so that parking problems/shortfall can be identified and aptly addressed before the situation deteriorates. Main findings and recommendations of the PDS-2 after its completion in August 2001 will be presented in next year's report.

2.4 As before, the assessments of latest demand and supply of parking spaces presented herein have been based on the Parking Inventory Database (PID) and the Parking Demand Model (PDM) developed in the PDS, and parking surveys have been conducted to verify such theoretical predictions. The PDS-2 will review and improve both the PID and the PDM to enhance their capabilities and accuracies in monitoring the demand and supply of parking spaces.

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 509,000, of which 64.0% are private cars, 22.5% are goods vehicles, 4.8% are motorcycles and 3.5% are taxis. The remaining categories combined represent less than 5.2% of the total fleet.

3.2 The strategic PDS demand model was developed to estimate parking demand for private vehicles (namely, private cars plus motorcycles) and goods vehicles which together constitute around 91% of the total vehicle fleet. The majority of figures presented in this paper therefore relate to these vehicle classes. However, as a result of the continual concern over parking facilities for coaches, public light buses and taxis, the problems relating to them are also addressed in the paper, though necessarily somewhat more qualitatively.

3.3 For the avoidance of doubt, demand/supply figures quoted hereinafter for past and current years refer to the first quarter figures of the year unless otherwise stated, and refer to the mid-year figures for the forecast year of 2006.

Private Cars

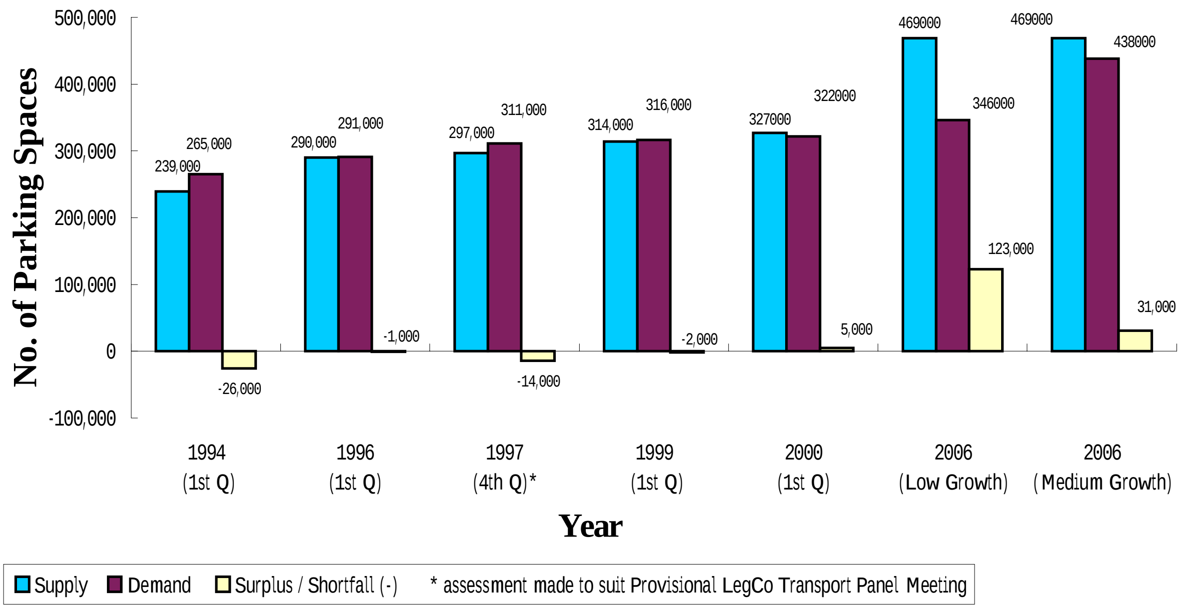
3.4 All private cars require a parking space at the place of residence (domestic). Additional parking spaces are required to serve the non-home end of car trips at places such as offices, shops and places of entertainment (non-domestic). The domestic and non-domestic situations are considered separately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

Domestic

3.5 The domestic private car parking space demand and supply situation is shown in Figure 1. In 2000, the demand for domestic private car parking spaces was 322,000, up by 6,000 from 1999. In the same period, the supply has grown by 13,000 spaces thus reversing the shortfall from 2,000 in 1999 to a surplus of 5,000 in 2000.

3.6 Between 2000 and 2006, it is anticipated that the supply of parking spaces will outpace the demand.

Figure 1
Domestic Private Car Parking Space Demand and Supply

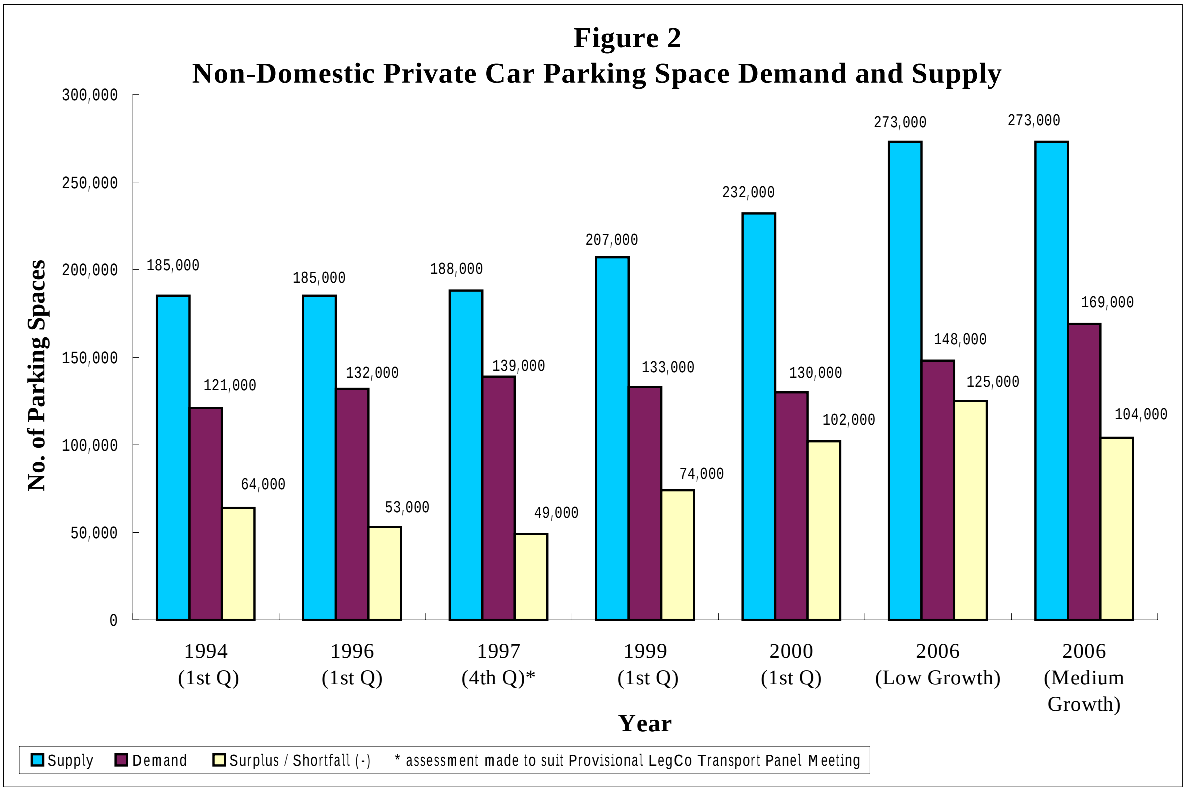


3.7 For 2006, two forecasts of demand have been made, using a medium growth rate and a low growth rate for fleet size, in accordance with the CTS-3. On the supply side, domestic private car parking spaces are expected to increase significantly as a result of the completion of more residential flats with parking provision. The forecast of the parking situation in 2006 indicates that a surplus of 123,000 and 31,000 spaces based on the low and medium growth scenarios respectively. The wide range 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 clearer, the supply of spaces should be tuned to avoid these excesses of surplus/shortfall.

3.8 Therefore, in respect of the territory-wide situation for domestic private car parking, there is generally an overall surplus. However, some districts, notably Central & Western, Eastern, Tuen Mun and Kwai Tsing have a shortfall of spaces. As a result of the increase in the number of spaces, the situation is expected to improve for some of these districts. However, Eastern District will continue to have a significant shortfall of spaces by 2006 under the low growth scenario.

Non-domestic

3.9 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 125,000 in 2006 for the low growth scenario and 104,000 for the medium growth scenario. No districts will have 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

3.10 Similar to private cars, it is necessary to assess both the daytime situation and the overnight situation. Two scenarios of low and medium growth of vehicle fleet size, in line with CTS-3 tests, have been assessed.

Daytime

3.11 During the day, majority of the goods vehicle fleet is on the move and the demand for parking spaces is much less than that for night time. Nevertheless, there is shortfall of spaces which has gradually been reduced from 30,500 in 1994 to 16,200 in 2000. The shortfall will be further reduced to 7,700 spaces by 2006 on the medium growth scenario, and 3,400 spaces on the low growth scenario.

Overnight

3.12 During the night, nearly all goods vehicles are inoperative and require parking spaces. 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 2000.

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 vary between these different categories of goods vehicles. To properly appreciate the real problems, 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 2000, there is a relatively small shortfall of M/HGV spaces (Figure 3) which is largely offset by a surplus of spaces for CVs (Figure 4). For 2006, the pattern is reversed. There will be surplus of spaces for M/HGV spaces but shortfall of spaces for CV in both the low and medium growth scenarios.

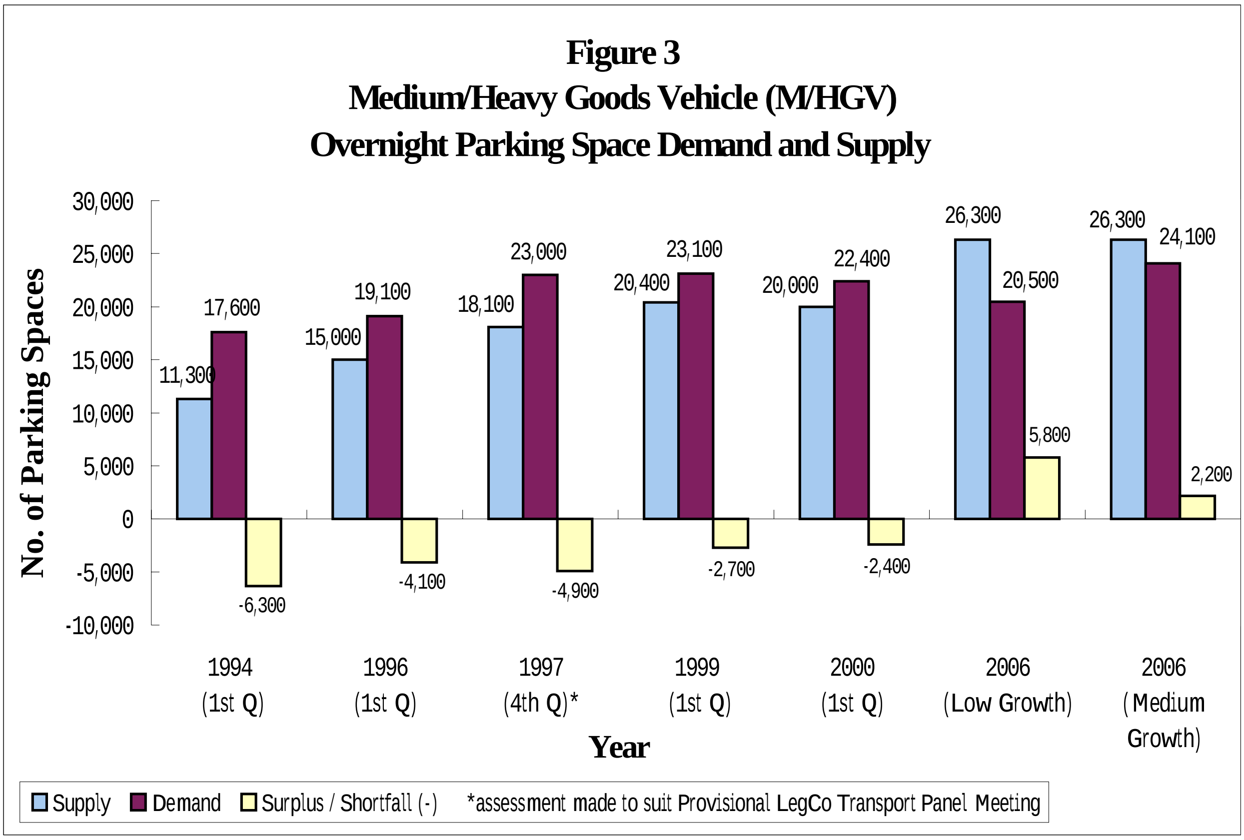
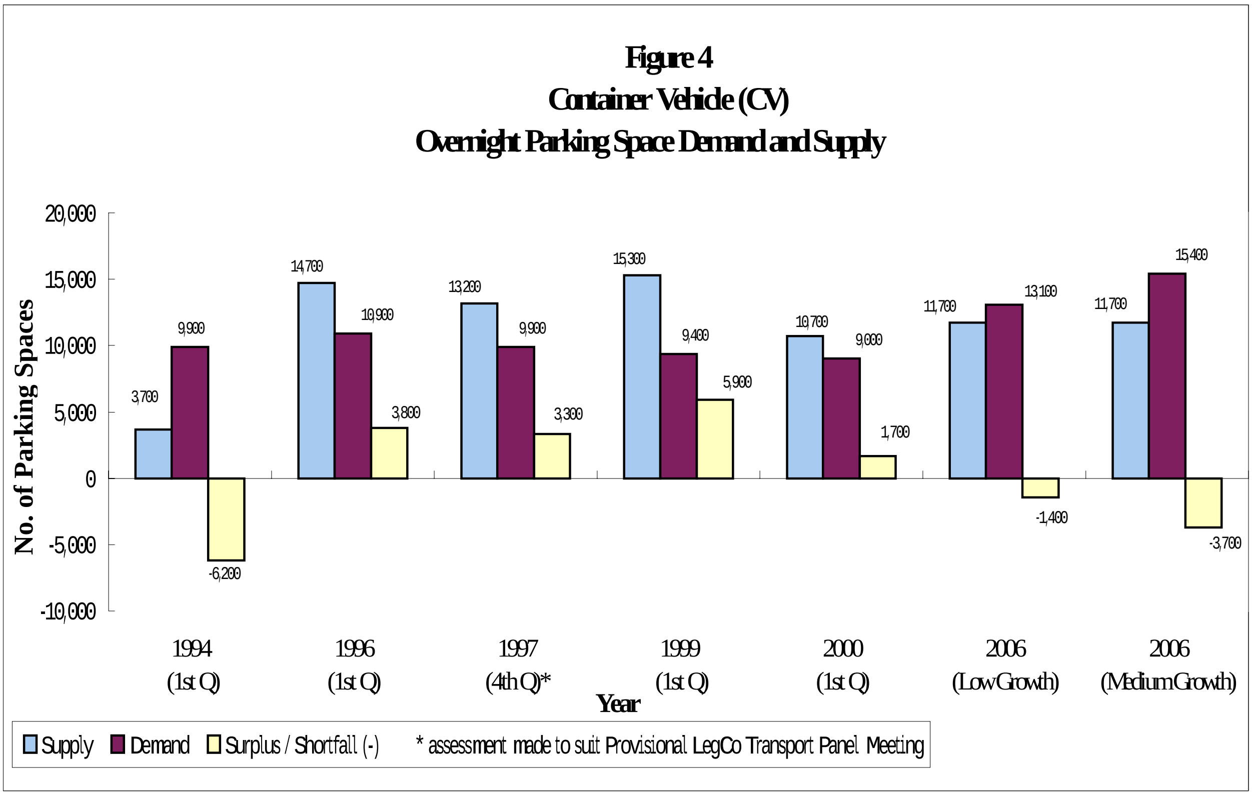
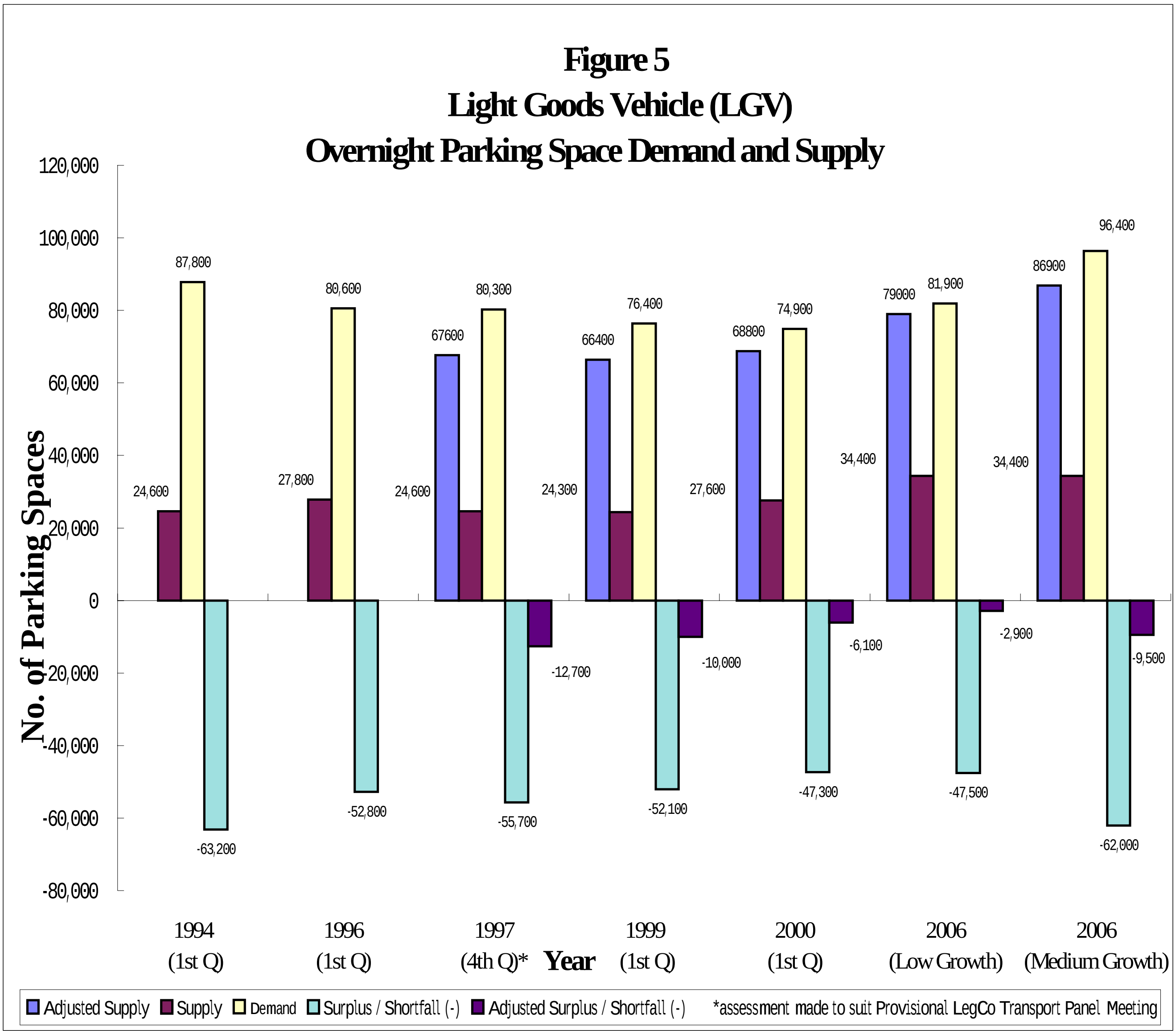


Figure 3
Medium/Heavy Goods Vehicle (M/HGV)
Overnight Parking Space Demand and Supply
No. of Parking Spaces
30,000
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
11,300
17,600
-6,300
15,000
19,100
-4,100
18,100
23,000
-4,900
20,400
23,100
-2,700
20,000
22,400
-2,400
26,300
20,500
5,800
26,300
24,100
2,200
1994 (1st Q)
1996 (1st Q)
1997 (4th Q)*
1999 (1st Q)
2000 (1st Q)
2006 (Low Growth)
2006 (Medium Growth)
Year
Supply
Demand
Surplus / Shortfall (-)
*assessment made to suit Provisional LegCo Transport Panel Meeting



3.15 As depicted in Figure 5, in 2000, there is a theoretical shortfall of 47,300 LGV spaces and the shortfall is expected to range between 47,500 (low growth) and 62,000 (medium growth) spaces by 2006. However, the actual shortfall is not as bad as it appears. In 2000, the LGV fleet size was 75,000 of which around 41,200 were light vans. Generally, light vans are small enough to park in private car spaces. It is likely therefore that these vehicles may have made use of the 102,000 surplus non-domestic private car parking spaces (see Figure 2). Taking this fact into account, it is estimated that the actual shortfall of LGV parking spaces in 2000 is about 6,100. Using the same rationale for assessment, the actual shortfall in 2006 should be lessened to around 2,900 and 9,500 under the low and medium 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 6 and 7, both the domestic and non-domestic demands in the next six years are expected to outpace the supply, thus keeping the respective shortfalls from 12,400 and 3,500 in 2000 to about 11,100 and 3,500 in 2006 under the medium growth scenario and 4,000 and 1,900 under the low growth scenario.

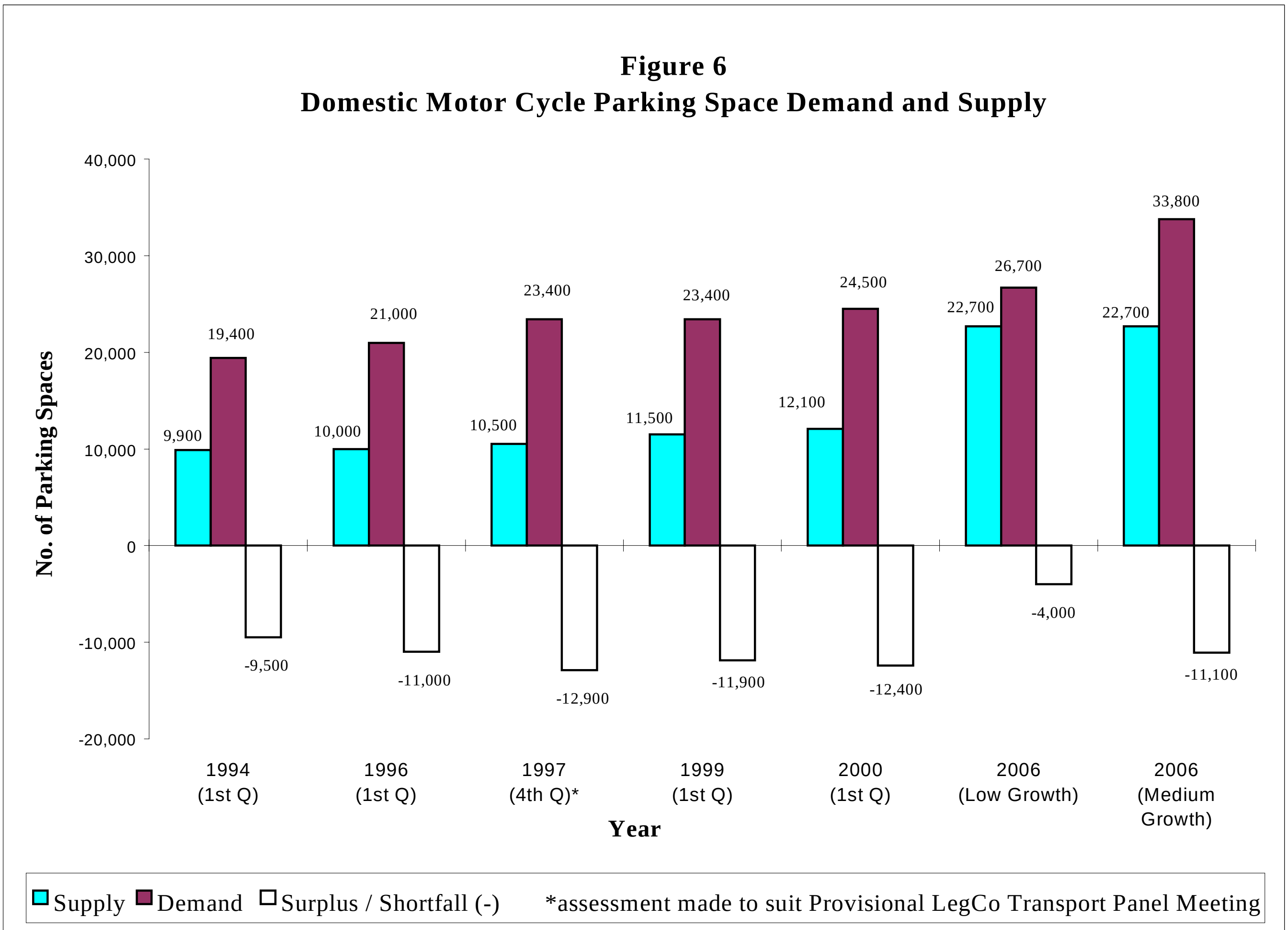
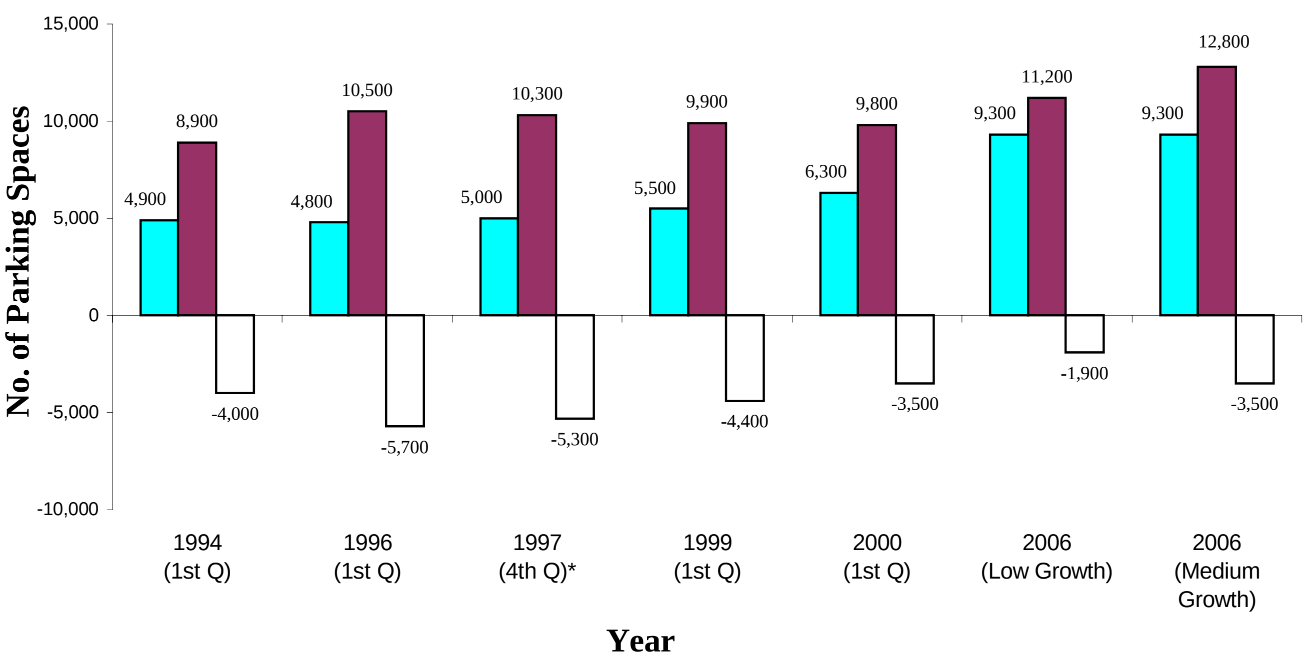


Figure 7
Non-Domestic Motor Cycle Parking Space Demand and Supply



Supply Demand Surplus / Shortfall (-) *assessment made to suit Provisional LegCo Transport Panel Meeting

Coaches

3.17 The concerns raised by trade operators have drawn our attention to the demand for coach parking spaces. From 1994 through 2000, the demand for spaces has varied between 4,200 and 6,100 whereas the supply has varied between 1,200 and 2,900 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 six 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, registered owners of taxis are required, as a licensing requirement, to provide their taxis with parking spaces. Parking spaces to cater for the special requirements, such as, facilitating change of shifts, meal breaks and toilet breaks are provided as appropriate.

Public Light Buses (PLB)

3.19 PLBs comprise the Red Mini-Buses (RMBs) and the Green Mini-Buses (GMBs). As of 1976, Government has decided to maintain the total number of PLBs at 4,350 and gradually replace RMBs by GMBs. The demand for PLB parking spaces is therefore stable. On the supply side, PLBs can park at STT sites and on-street parking spaces designated for motor vehicles other than motorcycles, medium and heavy goods vehicles and buses. PLBs can also legally park at PLB stands where such stands are so designated.

On-street Overnight Illegal Parking Survey

3.20 The assessment of demand for and supply of parking spaces as presented in the previous paragraphs has been based on models developed in 1995. The modeled shortfall of spaces should be evident on the ground by the presence of illegally parked vehicles on our streets. To verify the figures, a survey of on-street illegal parking was conducted during July 2000. 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:-

Vehicle Category	2000 Assessment on Shortfall of Overnight Spaces	2000 Survey on Illegally Parked Vehicles
Private Cars	5,000 (surplus)	8,400
Motorcycles	12,400	700
Coaches	3,200	600
Public Light Buses	1,500	700
Light Goods Vehicles	6,100	4,000
Medium/Heavy Goods Vehicles	2,400	1,400
Container Vehicles	1,700 (surplus)	1,200

3.21 The results of the survey indicate that the shortfall for coaches and motorcycles 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. 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. The inconsistencies in the cases of private cars and container vehicles may be due to motorists' behavioral elements such as expectation of net benefits in illegal parking instead of paying parking charges, and locational convenience considerations.

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

3.22 A further indication of the nature of the shortfall situation can be ascertained from consideration of the overnight utilization rate of STT sites. A survey was conducted in May 2000 and the results reveal that the nighttime utilization rate at STT sites is about 75%, leaving about 291,000 sq m of space available for parking. This amount of non-used land is capable of accommodating for example 11,600 private cars or 7,300 light goods vehicles or 4,850 coaches or 3,200 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 implementing the most important recommendations are described below.

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

HKPSG was revised in October 1996. The major objectives in this revision were to increase the provisions of parking spaces for private cars and goods vehicles and establish a requirement for motorcycle spaces. Comparison of the total supply figures between end 1997 and 2000 indicates that the number of parking spaces for private cars (domestic), motorcycles (domestic) and goods vehicles (overnight) have increased by 30,000, 1,600 and 2,400 respectively. These net increases are largely the result of new developments, built to HKPSG standards, being completed.

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

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 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. The site at Fanling, which was sold in 1999 provides 200 private car, 40 LGV, 10 M/HGV and 18 MC spaces. Five sites for building MSVPs which still remain in the Land Sales/Development Programme (four are included in the Reserved List for application in 2000/2001 Land Sales Programme and one is included in 2001/2002 Land Development Programme will provide 428 private car, 785 LGV, 265 M/HGV, 50 MC and 20 coach parking spaces.

ii. The car park (three level underground) cum public transport terminus at Stanley Village Road under planning by the Government will provide about 240 private car parking spaces upon completion.

4.4 **On-street overnight parking for goods vehicles**

Between 1999 and 2000, we have provided 11 on-street overnight goods vehicle parking spaces. The total number of such spaces now stands at 1,230.

4.5 **Use of Short Term Tenancy sites for parking**

The total area of the STT parking sites declined slightly from 1,179,000 sq m in mid 1999 to 1,158,000 sq m in March 2000. 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.

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

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 are under processing, which together can provide 499 private car, 20 coach and 20 goods vehicle parking spaces.

4.7 **Park and Ride (PnR)**

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 Scheme, which was started in December 1997 with 170 parking spaces reserved for PnR, has been quite successful.

ii. The Choi Hung PnR Development, which will be undertaken by the MTRC to provide 450 parking spaces, is programmed to be completed by mid 2004.

iii. Negotiations on the PnR provisions planned in the KCRC's West Rail Phase I and Ma On Shan Rail projects are on-going. There is also a plan to provide PnR spaces in the private sale site at Area 66 near the future Tseung Kwan O MTR Station. Subject to the agreement from the KCRC and the future developer of the sale site together with the financial and technical issues being satisfactorily resolved, a total of about 1,900 PnR spaces will be made available along the three railways.

4.8 **Use of daytime parking facilities in Government Buildings for public overnight parking**

In addition to car parks at Central Government Offices, Queensway Government Offices, Murray Building, Wanchai Tower, Immigration Tower, North Point and Northern District Government Offices, car parks at Cheung Sha Wan and Sai Kung Government Offices have also been opened for commercial operation after office hours, providing 297 additional parking spaces for private cars/light goods vehicles and 11 motorcycles. The total number of such spaces now stands at 1,102 private car/light goods vehicle and 42 motorcycle spaces.

5. INITIATIVES IDENTIFIED LAST YEAR TO ADDRESS THE SHORTFALL

5.1 To address the various parking related problems, in addition to pursuing the recommendations described above, the following initiatives were recommended last year and their current status are reported below:

5.2 **Flexible application of the HKPSG**
Whilst continuing to use the HKPSG as a guideline, flexibility has been exercised in specifying parking requirements for particular classes of vehicle in developments to take account of the forecast demand/supply figures.

5.3 **Further revisions to the HKPSG**
In line with the new transport strategy to use railways as the backbone of Hong Kong's transport system, it has been suggested that, except for PnR purpose, lower rates of parking provision may be considered for developments located in the vicinity of rail stations and other major public transport interchanges. Besides, there is a need to set parking standards for new emerging types of developments. A comprehensive review of the parking-related provisions in the HKPSG will be undertaken in PDS-2.

5.4 **Overnight LGV Parking in Government Office Car Parks**
The scheme described in para. 4.8 has been extended to include goods vehicles wherever the headroom clearance and turning circles allow. At present, except for Murray Building and Wan Chai Towers which only allow parking of private cars, some floors in the other Government Offices car parks allow parking of LGVs.

5.5 **Additional Parking Spaces for Taxis**
More than 200 parking spaces at concessionary monthly parking rates have been made available to taxis at Transport Department's car parks. Designation of selected taxi stands for temporary parking of taxis during off-peak periods is being implemented. In addition, short-term parking

spaces in the vicinity of popular public toilets have been provided to facilitate toilet breaks.

5.6 **Additional Parking Spaces for PLBs**

Additional parking spaces for PLBs have been 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.

5.7 **Additional Parking Spaces for Rehabus**

The Rehabus fleet of 82 vehicles are now provided with about 30 parking spaces at the existing Rehabus depot/offices. The shortfall is made up by renting parking spaces in the private sector or Housing Estate car parks. It is planned that by April 2001, 13 additional parking spaces for Rehabus will be provided at the existing Kowloon Bay depot while another 12 parking spaces will be provided at the new Tuen Mun depot.

6. NEW INITIATIVES TO ADDRESS THE SHORTFALL

6.1 In a drive to keep the momentum for continuous improvement, the following new initiative are proposed this year to address the shortfall:

6.2 **Meter expansion and charging meter fees on Sundays and public holidays**

In order to rationalise the use of on-street parking spaces in a more effective way and to cope with the demand for short-term parking, Transport Department aims to convert 3,300 non-metered spaces to metered ones in the built-up areas in the coming 3 years. This is in line with the policy to extend metering to all parts of the urban area and New Towns where on-street parking can be permitted. Along this objective, we have also planned to progressively extend meter operations to Sundays and public holidays for some 9,300 on-street parking spaces with high utilisation rate in 2 years' time. Priority will be given to busy commercial areas where there is high demand for short-term parking on public holidays.

6.3 **Provision of more casual parking spaces for motorcycle within public Government car parks**

Provision of more casual parking spaces for motorcycles within public Government car parks and Housing Department's estate car parks to alleviate the general shortfall in the territory would be pursued.

6.4 **Conversion of PC spaces to LGV spaces**

As there will be a surplus in domestic and non-domestic private car parking spaces but a general shortfall in LGV parking spaces, consideration may be given to the feasibility of converting some private car parking spaces to serve LGV parking where headroom clearance and turning circles allow.

6.5 **Joint uses of on-street parking spaces for goods vehicles and coaches**

Feasibility of allowing joint use of on-street parking spaces for goods vehicles and coaches may be explored in areas where shortfall in coach parking spaces is expected to emerge.

6.6 **Reserving parking spaces for coaches in STT sites**

Some trial schemes have been initiated in Tuen Mun for reserving a certain number of spaces for coaches in STT sites. Depending on the outcome, consideration may be given to extending the scheme to other areas where coach parking spaces are not adequate.

6.7 **Avoiding inclusion of vehicle classes restriction clause in STT conditions**

In general, restriction in the use of STT for parking by particular vehicle classes should be avoided, in particular for container vehicles, where site constraints are not an issue. Where there is a traffic management need, or the market force alone is not effective to provide parking spaces for a particular type of vehicle, consideration may be given to reserving sites for that type of vehicle in the STT conditions.

7. CONCLUSION

7.1 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. In the PDS-2, the consultants, apart from identifying the scale of the current parking-related problems, will review the PDS recommendations, recommend new remedial measures and formulate new initiatives.

7.2 The initiatives recommended last year have made positive contribution towards addressing the shortfall on some measures. During the ensuing year, pursuing the existing and new initiatives will remain the focus of the Working Group on Parking.

Transport Department
December 2000