

4. REMEDIAL MEASURES

4.1 Introduction

4.1.1 The Study has identified that for HKSAR as a whole, there is no shortage of parking supply for private cars. Parking related problems for goods vehicles, coaches and motorcycles are identified and they vary in scale and location.

4.1.2 The Study has formulated a number of remedial measures to address the parking problems identified. It should be reiterated that due to the strategic nature of PDS-2, the recommendations aim at identifying practical measures and strategies to address identified problems. The proposed remedial measures would not be of sufficient detail to address localised issues, in terms of problem identification and specific solutions development. Instead, district-wide strategies are formulated for problematic districts, taking into account distinct characteristics of individual districts, to provide some insights into the applicable remedial measures. It should be noted that some of the measures are intended to provide parking spaces for more than one type of vehicle. When developing the remedial measures for PDS-2, proposals from PDS-1 and their implementation status, impact on the parking conditions and applicability to the current situation were reviewed and taken into account.



Multi-storey Goods Vehicle Park

4.1.3 The recommended remedial measures are grouped into the following categories:

- Measure A - remedial measures through planning process. These measures are based

on the process of implementing planning measures to improve parking conditions;

- Measure B - remedial measures through management. This group of remedial measures is based on two principles: to manage the demand and supply of parking facilities and to optimise use of facilities; and
- Measure C - remedial measures using advanced technology solutions. Advanced technologies have brought about opportunities and challenges in formulating innovative remedial measures for addressing parking problems in the long term.

4.2 Measure A - Remedial Measures Through Planning Process

A1 Revision of HKPSG

4.2.1 Following the thorough review of HKPSG and wide consultation with interested parties, the Study recommends revisions to current parking standards and new guidelines to be incorporated into HKPSG. It also recommends a fundamental change to the criteria for establishing parking standards for residential housing. The details of revisions to HKPSG are given in section 3.5 of this report.

A2 Provision of Park and Ride Facilities

4.2.2 The main objective of Park and Ride is to reduce private car trips to/from the busy urban areas and encourage the use of available public transport facilities. KCR/MTR stations, major public transport interchanges and bus termini are potential Park and Ride locations. The establishment of Park and Ride in these locations should continue to be encouraged.

A3 Provision of Kiss and Ride Facilities

4.2.3 Like Park and Ride, this measure would encourage the transfer from private car to public transport mode. By providing proper pick up/set down areas at KCR/MTR stations and major public transport interchanges, commuters could be encouraged to use public transport to complete the trip. It is recommended that adequate facilities be provided for vehicles to wait at the pick up end.

A4 Provision of Multi-storey Vehicle Parks in New Developments

4.2.4 Multi-storey vehicle parking is an effective measure to address the parking problems. However, economic considerations have hampered the implementation of this measure. It is felt that single purpose multi-storey parking buildings would sacrifice too much development potential. The Government is pursuing the provision of parking spaces in joint-user buildings through the Land Sales Programme and Land Development Programme. In exceptional circumstances, where sufficient spaces cannot be provided, funding car parks at sites zoned for community or GIC would be considered.

A5 Use of Opportunity Afforded by Redevelopment Proposals to Require Developer to Provide Public Parking Spaces

4.2.5 The measure relies on applications for lease modification and land exchange. Applications are considered on a case-by-case basis. Where parking shortage is justified and depending on the circumstances of the case and constraints imposed by the Buildings Ordinance maximum plot ratio, Government may require the developers to provide more parking spaces. Consideration should be given to providing more goods vehicle parking in view of the anticipated shortfalls, particularly in areas with severe shortage of GV parking spaces.

A6 Provision of Goods Vehicle/ Coach Parking in Container Back-up Areas

4.2.6 A recent Lands Department survey of container back-up areas revealed a large tract of land has been occupied as container vehicle park (CVP), amongst other container back-up uses. It is estimated that the CVP sites within compatible landuse and tolerated areas can accommodate up to 16,700 heavy vehicles, such as goods vehicles, container vehicles and coaches.



Container Back-up Area in New Territories

4.2.7 Most of these CVPs are located in the New Territories, particularly in Tuen Mun, Yuen Long, Tai Po and North District, where parking space shortages for goods vehicles are noted in 2000, 2006 and 2011. These CVPs are currently providing most of the non-designated parking spaces in NENT and NWNT, covering shortfalls in their respective districts as well as in the neighbouring districts.

4.2.8 Relaxation in the planning application process for this type of land use is needed if rationalisation of some of the land use is desirable. The amount of rationalisation must be compatible with the overall Government policy on land use in the New Territories. Private initiative is also required. However, care should be exercised to target the parking provisions for goods vehicles, coaches and PLB, so as not to impact on other off-street car park operators.

A7 Formation of Bicycle Parking Guidelines

4.2.9 A set of guidelines for bicycle parking has been proposed for inclusion in HKPSG. At rail stations with connecting cycle tracks, it is recommended that 30 bicycle parking spaces per 10,000 population within the 2km radius of the rail station should be provided.

4.2.10 In residential developments where proper cycle tracks with direct connection to rail stations are accessible, the following guidelines on the level of bicycle parking provision are recommended :

- Within 0.5 – 2km radius of a rail station, 1 bicycle parking space for every 15 flats with average flat size smaller than 70m²; and
- Outside a 2km radius of a rail station, 1 bicycle parking space for every 30 flats with average flat size smaller than 70m².

A8 Allowing Flexible and Integrated Design for Motorcycle Parking

4.2.11 It is recommended to continue with the current parking standard for motorcycles in developments (equivalent to 5-10% of the provision for private car parking spaces) but allow more flexibility in designating spaces. A wider use of odd places, such as spaces with lower headroom, odd spaces in Government and existing/future off-street car parks, etc, should be considered. Additional spaces could be introduced in Government car parks, particularly those in busy commercial districts. Motorcycle parking has been included in the Night Pass scheme currently implemented in 13 Government multi-storey car parks.

4.2.12 Allowing the use of reasonable odd spaces for parking of motorcycles could be an incentive for private developer to provide the upper end of the 5-10% range and create more off-street motorcycle parking spaces. The use of reasonable odd space could allow the car park operator to lower the parking charge and make off-street motorcycle parking more attractive.

4.2.13 It is recommended to increase the on-street motorcycle parking to rectify on-street parking condition and to alleviate the visual impact caused by illegal parking. This will involve on-street (non-metered) parking spaces and additional spaces underneath flyovers or footbridges with suitable layout and access. The use of such spaces should be rationalised and formalised on a case-by-case basis at district level. Incorporating motorcycle parking spaces underneath transport infrastructure should be examined in the planning stage of the infrastructure proposal.



Possible Utilisation of Space under Footbridge

4.2.14 On-street motorcycle parking should not be excluded from the user pays principle and from the current trend of reallocating street space for the more vulnerable road users. Introducing charges to on-street parking could be a means to shift parking demand to the off-street facilities. Continued monitoring of the payment technology is recommended to evaluate whether it would be feasible to charge on-street parking of motorcycle in a convenient manner for users, operators and enforcement offices in future.

4.3 Measure B - Remedial Measures Through Management

4.3.1 A number of these management remedial measures are directed at addressing the ownership-related as well as usage-related parking space shortages for goods vehicles and coaches.

B1 Use of Short-term Tenancy Sites for Parking



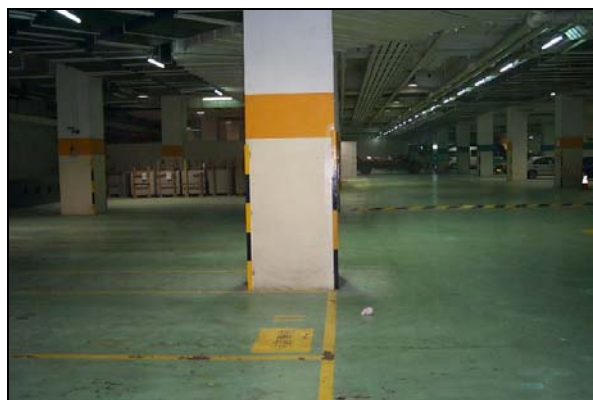
Use of STT Sites for Coach and GV Parking

4.3.2 Although it is an interim/short-term measure, the use of short-term tenancy (STT) sites for parking is effective in providing parking spaces for goods vehicles, especially container vehicles. The original objective of providing the facility to meet the parking shortage for whatever vehicle class, particularly goods vehicle, has not been well supported due to the preference of STT operators to cater for private cars only. While it is appreciated that certain restrictions should be maintained for sites situated in more noise sensitive locations, commercial considerations should not be allowed to rule over the objective. Coach and goods vehicle parking facilities need to be more actively provided as these vehicles suffer the greatest shortage.

4.3.3 A STT site is considered appropriate for the parking of dangerous goods vehicles if it is located far away from residential developments and activity centres. In districts where there are shortage of goods vehicle parking spaces, consideration should be given to convert some of the private car parking space in STT sites to goods vehicle parking spaces in the re-tender process of the STT.

B2 Use of Off-street Goods Vehicle Loading/Unloading Spaces for Night-time Goods Vehicle/Coach Parking

4.3.4 There are over 10,000 off-street loading/unloading (L/UL) spaces in the HKSAR. In areas where overnight or ownership-related goods vehicle parking spaces are in short supply, these spaces could be considered for night-time parking by goods vehicles.



Loading/unloading Spaces Suitable for GV/Coach Night-time Parking

4.3.5 It is recognised that due to management, security and operational reasons, it is not possible to use all the spaces for goods vehicle/coach parking purpose. On the other hand, it has also been demonstrated that such a scheme is practicable and in operation and should be encouraged.

B3 Use of Day-time Parking Facilities in Government Buildings for Public Parking After Office Hours

4.3.6 Car parks at Government offices and buildings are generally left unoccupied after office hours. While the design of existing car parks would normally preclude their use by larger vehicles, they could accommodate vans and light goods vehicles. An attractive pricing policy could encourage maximum use of such

facilities by goods vehicles. It is also recommended that this measure should extend to depots.



Use of Open Spaces in Government Premises for GV and Coach Night-Time Parking

B4 Use of Open Spaces at Government Premises for Goods Vehicle/Coach Parking after Office Hours

4.3.7 Open-air car parks or open spaces would generally not pose headroom issue to large vehicles, such as goods vehicles and coaches. As an extension of remedial measure B3, it is feasible to use open-air car parks or open spaces at Government premises for overnight parking of goods vehicle and coach, where traffic and environmental conditions permit.

B5 Extending/Regularising More Night-time On-street Parking for Goods Vehicles/Coaches

4.3.8 It is proposed to continue with the current initiative to legalise the overnight (i.e., 2200 to 0700 hours) parking of goods vehicles along roads where it is acceptable, in traffic and environmental terms. This measure may also be considered to address the deficit of coach parking spaces.



On-street Overnight Coach Parking at Industrial Estate

B6 Converting On-street Private Car Parking Spaces to Coach/Taxi Parking and Pick-up/Set-down Facilities

4.3.9 This measure proposes to convert the existing on-street private car spaces to coach/taxi parking and/or pick-up/set-down facilities in the busy shopping and tourist districts, where there are shortages of such facilities but with sufficient off-street parking capacity to compensate for the displaced spaces. The measure could reduce the circulation traffic of coaches and taxis and improve the general traffic flows.



Conversion of On-street Parking Space to Pick-up/Set-down and Night-time Parking

4.3.10 Under this measure, pick-up/set-down facilities can be created using “No Waiting” zone and designated coach waiting areas and taxi stands. The “No Waiting” measure has had a marked improvement in the operation of coaches and taxis in the busy shopping/tourist areas, particularly in Tsim Sha Tsui, Mong Kok and Causeway Bay. These facilities could be considered for night-time (2200 – 0700 hours) goods vehicle/coach parking, where traffic and environmental conditions permit. New traffic signs and road markings would have to be designed to permit night-time parking of coaches and goods vehicles in “No Waiting” areas.

B7 Designating Additional “No Waiting” Zones with Provisions for Coaches and Taxis

4.3.11 This measure is particularly aimed at relieving shortages in taxi and coach passenger pick-up/set-down spaces. It is targeted at improving the turnover rate of kerb side pick-up/set-down areas. The increasing implementation of “No Waiting” zones in busy commercial districts has resulted in a marked improvement in the turnover rates of the

kerbside facilities. It is recommended that the application of this measure be expanded.



“No Waiting” Zone

B8 Streamlining Application for Temporary Use of Vacant Private Development Sites for Goods Vehicle / Coach Parking

4.3.12 This measure could relieve shortage of overnight parking spaces for goods vehicles in the New Territories, in particular in Tuen Mun, Yuen Long and North Districts. With the downturn of economy and reduced demand for housing units, a huge number of development sites are either left as vacant plots or derelict agricultural land. Some of these vacant development lots are suitable for parking of goods vehicles and coaches.

4.3.13 The environmental, compatibility and traffic issues should however be taken into account. The procedure for application of “Temporary Use” of vacant development land for parking of goods vehicle and coaches should be streamlined to promote the measure by:

- Shortening the approval duration;
- Adopting a flexible consideration such as exemption of certain impact studies; and
- Setting up an inter-departmental unit in processing the applications.

4.4 Measure C - Remedial Measures Using Advanced Technology Solutions

4.4.1 Advanced technologies such as mechanical parking systems and Intelligent Transport Systems (ITS) have brought about opportunities and challenges in formulating

innovative remedial measures for addressing parking problems in the long term. It is considered desirable to incorporate the widely used ITS to address certain types of parking problems, especially in the congested urban areas of Hong Kong Island and Kowloon. Application of ITS would also enable private sector participation in the development and implementation of solutions as value-added services.

C1 Mechanical Parking System

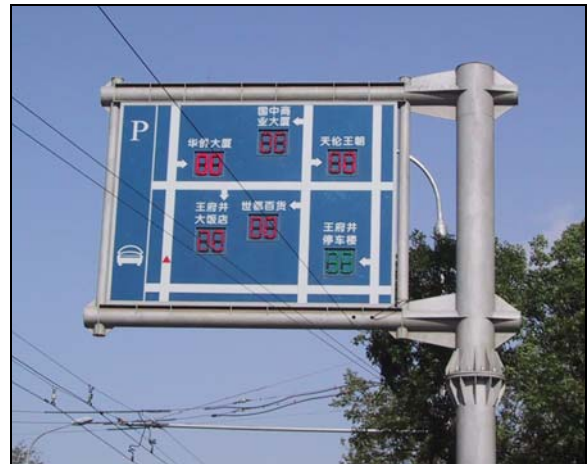
4.4.2 Mechanically assisted parking systems can be used to increase spatial efficiency. This is particularly relevant in densely built-up commercial districts where parking shortage currently exists. Mechanical parking system can be easily made with simple steelwork and hoisting equipment that could be very cost-effective. The figure below shows a simple mechanical parking system in Beijing.



Mechanical Parking

C2 Parking Guidance System

4.4.3 Parking Guidance Systems (PGS) could be provided through private sector participation to supply relevant parking information via media and communication systems or roadside electronic information signs, to enable motorists to avoid areas where parking facilities are already full. A well-interconnected and occupancy-controlled PGS can direct drivers to the next available car park or parking space. PGS can reduce the amount of traffic on the road network and help mitigate environmental impact. Strategically, the system can be used to spread demand or adjust the demand on existing parking facilities. In emergency situations, a PGS can be operated as part of a contingency plan for traffic diversion and control of emergency service vehicles.

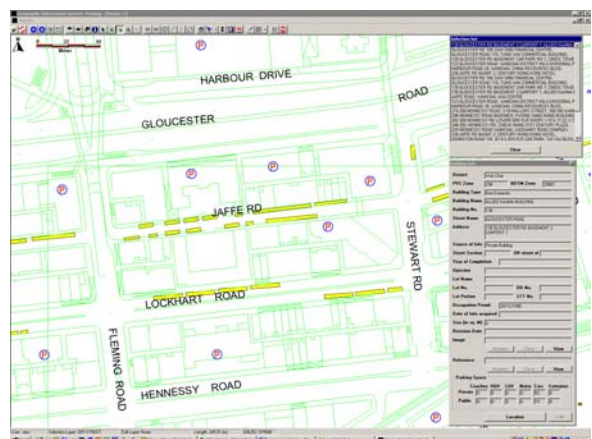


Parking Guidance System

C3 Real-time or Near Real-time Parking Related Information System

4.4.4 As a long term initiative, real-time or near real time parking information can be disseminated to the public through mass media or through the 3rd Generation Mobile Phone service as a private sector initiative. It is anticipated that the system will develop and become mature with increasing popularity. It will enable road users to make more informed choices such as changing travel mode or trip destinations to avoid areas where parking facilities are already full.

4.4.5 Parking technology such as sensor for parking bay monitoring could be adopted to give real time information on bay occupancy and help guiding vehicles inside the car park to the nearest available bay. A new concept of ITS - parking reservation system - can aid travellers in securing a parking space either prior to or during their trip. It could provide real time monitoring of parking availability and estimate of anticipated demand.



GIS-based Parking Related Information System

C4 Advanced Parking Information System

4.4.6 The measure aims to allow more efficient use of parking and loading/unloading facilities through a variety of system engineering. Sensors or image processing techniques could be used to monitor private car parking bay and coach and goods vehicle loading/unloading bay and to alert motorists of locations of vacant bays. This feature is particularly useful in busy tourist area by giving real time information on bay occupancy and guiding a vehicle to the nearest available bay.

4.4.7 It can also use the video system to capture licence plate numbers for the issuance of invoices to motorists for parking charges, thus saving time and resources by eliminating the need to pay the parking charges at shroff office. It could be used for fleet management of goods vehicles and coaches, including the guidance and control of night-time parking.

4.5 Addressing the Issues

4.5.1 It is forecast that goods vehicles and coaches together would experience a parking shortfall of 14,500 and 15,500 spaces in 2006 and 2011, respectively. Based on these forecasts, PDS-2 has recommended several remedial measures to address the anticipated shortfall situations.



Possible On-street Goods Vehicles Overnight Parking

4.5.2 The implementation of the following remedial measures would provide additional spaces to meet the parking demand of goods vehicles and coaches:

- Container back-up areas – 16,700 spaces;

- Specifying parking spaces in new developments and car park projects – 2,800 spaces;
- Using STT sites in districts with shortfall by converting a portion of private car spaces to goods vehicle parking and by establishing new STT sites – 4,300 spaces;
- Using day-time parking facilities in Government buildings for public parking after office hours – 380 spaces;
- Using open spaces at Government premises after office hours – 160 spaces;
- Streamlining application for temporary use of vacant private development sites – 600 spaces;
- Extending/regularising more night-time on-street parking – 510 spaces; and
- Converting on-street private car spaces to coach/taxi parking and pick up/set down facilities – 820 spaces.

4.5.3 An interdepartmental Working Group on Parking has been set up since the completion of the PDS-1. It will continue to function to oversee, monitor and review as necessary the implementation of the remedial measures recommended in the Study. Members of the Working Group include representatives from Transport Department, Planning Department, Building Department, Lands Department and other concerned departments and parties.

4.5.4 It can be seen that if all of these remedial measures were implemented, there would be an additional 26,300 parking spaces for goods vehicles and coaches to meet the expected parking demand in 2006 and 2011.

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