Keeping Hong Kong Moving

The White Paper on Internal Transport Policy

Environment Branch, Government Secretariat • May 1979
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WHITE PAPER ON
INTERNAL TRANSPORT POLICY

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Chapter One

INTRODUCTION

This is Hong Kong's first White Paper on internal transport policy. It builds on the Government's 1974 Green Paper "Transport in Hong Kong: a paper for public information and discussion" and on the 1976 Report by consultants on the Comprehensive Transport Study.


The Green Paper

1 The Green Paper, published at the end of a decade when the number of motor vehicles in Hong Kong had trebled and when private cars accounted for two-thirds of all registered motor vehicles, stated that the growth in vehicle numbers, if allowed to continue unchecked, would spread congestion over an ever-widening area.

2 The paper argued that road congestion harmed the community in a number of ways and, particularly,
   - slowed all traffic down, thereby wasting time;
   - led to emergency vehicles getting stuck in the common glue-pot;
   - caused pollution; and
   - increased road accidents.

3 The Green Paper proposed that three main principles should govern Hong Kong's approach to the problem of congestion:
   - improvement of the road system;
   - expansion and improvement of public transport; and
   - more economic use of the road system.

4 As regards improvement of the road system, the Green Paper pointed out that the Government had a programme for developing trunk routes, improving secondary roads and employing traffic engineering and management schemes. The basis of this programme was the Long Term Road Study referred to above, but the programme was kept under continuous review and updated from time to time in the light of changing circumstances.

5 On the question of expanding and improving public transport, the Green Paper set out the Government's intentions regarding the various modes as below:
   (a) Mass Transit Railway (MTR). In view of the limited capacity of the road system, the Government had decided to construct an MTR which could eventually carry about one-third of all public transport passengers in Hong Kong as a whole.
   (b) Trams. These should continue to provide a useful service, despite the possible later construction of an MTR line along the north shore of Hong Kong Island.
   (c) Public Light Buses (PLBs). These were popular but extravagant users of road space. If the number of franchised buses could be increased to meet demand, there should be a strong case for gradually limiting the services provided by PLBs to those which franchised buses could not match.
   (d) Buses. These would remain the main element in the public transport system. Even in areas served by the MTR, buses would carry almost as many passengers as the railway. The Green Paper foresaw that the Government would have to introduce some discrimination in favour of large buses as users of the main transport routes. But it would have to be satisfied that the buses would be available in sufficient numbers, on the right routes and with adequate standards of maintenance, cleanliness and courtesy.
(e) Water-borne Transport. Passenger ferries continued to play an important part in Hong Kong's transport system, despite the opening of the cross harbour tunnel. The Government planned to introduce new ferry routes to increase passenger convenience and reduce the call on road transport.

(f) The Kowloon-Canton Railway (KCR). About one-third of Hong Kong's imports from China were carried by KCR, which also carried about one-third of the public transport passengers moving in the area served by the railway. The Government planned to double-track the line to Sha Tin and, in the light of urban growth in the New Territories, was considering extending double-tracking to Lo Wu and electrifying the line as far as Sha Tin.

(g) Taxis, Hire Cars and Pak Pats*. The Government proposed to issue more taxi and hire car licences and to suspend the licence of any private car used illegally as a hire car or taxi. Taxis, because they spent a great deal of time cruising on busy streets seeking passengers, contributed more to congestion than hire cars or private cars. Taxi fares were low and this probably produced a demand higher than in most cities. If road congestion had to be eased in Hong Kong and, provided alternative public transport was conveniently available, there would be a case for gradually reducing the importance of the taxi to the level to be found in many other cities.

6 In turning to the measures necessary to achieve a more economic use of the road system, the Green Paper said that, even if every feasible method of increasing road capacity in the urban areas was used, it would not keep pace with the natural growth in traffic and that traffic would therefore have to be held to a level with which the road system could cope. If a reasonable average journey speed of 12–15 mph (19–24 km/h) was to be achieved during peak periods, priorities for road use would have to be agreed and restrictions might have to be applied to less essential traffic. The vast majority of the community depended on public transport, which was being slowed down by less efficient users of road space, such as cars. The only practical forms of restraint on traffic in Hong Kong were fiscal ones to reduce the growth in the number of cars on the roads.

7 The Green Paper also considered that Hong Kong's goods vehicles were grossly under-utilised and made a greater demand on road space than was warranted. It would be sensible to discourage further increases in goods vehicle registrations, to impose controls on loading and unloading and to provide off-street goods vehicle parking spaces.

8 The Green Paper's final section referred to the preparation by a team of Government officials and consultants of a Comprehensive Transport Study, begun in 1973. This was mainly concerned with the measures necessary to match road capacity to demand and, when completed, would be regularly updated. The concluding paragraph of the Green Paper stated:

'The Government's prime objective is to provide the overall transport system which will best meet Hong Kong's special circumstances. It is the Government's belief that, to meet this objective, it will be necessary to build many new roads, improve public transport of all sorts and also maximise the use of our roads by various means, including the imposition of restrictions as and when necessary.

If we can achieve a proper balance between private cars, taxis, hire cars, PLB's, buses, trams and goods vehicles, and attain a higher standard of public transport and an expanded road system, we shall have gone a long way towards improving the quality of life of the people of Hong Kong as a whole.'

The Comprehensive Transport Study

9 The consultants' report on the Comprehensive Transport Study (CTS), referred to in the Green Paper, was published in December 1976. This report described inter alia the workings of a model** of the Hong Kong transport system constructed as an aid to policy formulation. The model does not provide a ready-made set of conclusions which can be immediately applied to policy, since what comes out of it depends on the assumptions which are put into it and those assumptions have necessarily to be modified in the light of changing circumstances. The CTS does, however, help in the formulation of a coherent transport policy because all elements in the model are interrelated. In addition, the data used can be continuously updated since a liaison team of Government transport planners was formed in early 1973 to work closely with and to learn from the consultants, thereby ensuring that work on the CTS continued once the consultants' task was completed. Therefore basic transport planning in Hong Kong now starts from the approach developed by the CTS, whether that planning is concerned with roads or railways, taxis or trams.

* Note: For the purposes of this White Paper these modes are now classified as 'private' rather than 'public' transport.

** Please see Glossary.
10 The essential purpose of the CTS is to help determine what has to be done by way of policies and investment in transport facilities to achieve and maintain an acceptable level of mobility for passengers and freight moving by road, rail and water up to 1991. The Study took as its starting point a sample survey of 25,000 households, which provided origin and destination data and relationships between family situation and travel. Employing these relationships and certain assumptions, the demand for transport facilities up to 1991 was predicted. Computer tests were conducted to determine what additional investment in transport facilities and which restraint measures would best ensure improved and continued mobility in the years ahead. Four basic assumptions were made:

(a) population would grow at an average of 1.9% per annum to 5.9 million in 1991;
(b) household size would decrease, on average, by 25% by 1991;
(c) real Gross Domestic Product (GDP) would grow at an average of 7% per annum to 1991; and
(d) an average of up to $350 million per annum (at 1974 prices) would be made available for expenditure on additional road capacity.

These assumptions were then combined with permutations of differing assumptions regarding land use distribution, transport systems and fiscal restraint policy options.

11 The CTS report indicated that, on certain basic assumptions, the predicted demand for transport, measured by the ratio of traffic volumes to road capacity* and the average journey speed for public transport in peak hours, could be satisfied provided that the following measures, *inter alia*, were adopted:

(a) an investment (at 1974 prices) between 1973 and 1991 of:
   (i) about $4,000 million i.e. an average of about $220 million per annum on roads;
   (ii) about $5,500 million on the extension of the MTR beyond the Modified Initial System;
   (iii) about $1,500 million on the KCR; and

(b) gradually increasing fiscal restraints on private passenger transport, leading eventually to increases (at 1974 prices) in:
   (i) annual licence fees for private cars from the 1974 average of $610 to $2,632 by 1991;
   (ii) parking charges to about double the present level; and
   (iii) taxi fares to about double their present level.

12 The assumptions outlined in paragraph 10 above are not immutable; they were made for the purpose of the CTS and, as planning assumptions, may need to be changed in the future. The specific measures listed in paragraph 11 are recommendations of the consultants responsible for the CTS and not all of their recommendations have been incorporated in the Government's transport policy set out in the following pages of this White Paper.

* Please see Glossary.
Chapter Two

THE GOVERNMENT'S TRANSPORT POLICY IN BRIEF

13 Following publication of the report on the CTS in December 1976, a Working Group was set up under the chairmanship of the Secretary for the Environment to consider the report and to help to draft this White Paper. The Group accepted the tests which lay behind the report as a good basis for formulating the policies contained in the White Paper. Accordingly, the White Paper has its roots in the CTS, though the Government has also taken account of developments since the report was prepared, the views of the public transport operators and the advice of the Transport Advisory Committee. It follows that the proposals in this White Paper are the result of a comprehensive re-examination of the Government's transport policy and that they do not necessarily follow either the Green Paper or the CTS report.

14 The Government's central transport objective is to maintain and improve the mobility of people and goods. By comparison with other similar urban communities, Hong Kong's passenger and freight traffic now moves reasonably well. But there is a threat of serious road congestion from an increasing demand for private, public and freight transport. Congestion, therefore, will get worse unless something is done. This White Paper describes what the Government proposes to do about the threat to Hong Kong's mobility. People and goods must move efficiently and by their preferred means of transport so far as possible - although not to the extent that the consequent demand on resources prejudices other important requirements of the community. Hong Kong's unique characteristics with respect to population, terrain, commercial and industrial activity and density of development place physical and financial limitations on creating a road system capable of accommodating all desired urban travel.

15 These limitations mean that the provision and use of off-street transport systems, specifically rail and water-borne services must be encouraged. The development of off-street systems is, however, also subject to financial and physical limitations and the needs of passenger and freight movement mean that the road system must continue to be developed as far as it is physically, environmentally, economically and financially feasible. But, in addition, the necessarily limited road system must be used with the utmost economy and this means encouraging the use of public and discouraging private transport.

16 Accordingly, the Government considers that the transport needs of Hong Kong can best be met by an integrated, multi-modal system in which public passenger transport is given greater priority on the roads over private passenger transport than at present and in which the provision and use of off-street public passenger modes are encouraged. Essentially, the development of this integrated system still rests on the tripod of principles established in the Green Paper, the legs of which are:

- improvement of the road system;
- expansion and improvement of public transport; and
- more economic use of the road system.

17 The remainder of the present chapter summarises the Government's transport policy described in later chapters, and it conforms with the three basic principles set out above. These chapters also more fully describe the integrated transport system which the Government proposes to develop so as to maintain and, where possible, improve mobility for passengers and freight.

18 The road investment programme as planned would involve a commitment, at 1979 prices, of about $7,000 million over the next five years. In large part this investment will take the form of roads linking the new towns to each other and to the existing urban centres but the older urban areas will benefit from such developments as the Aberdeen Tunnel, the Island Eastern Corridor and the West Kowloon Corridor as well as from the increasing use of traffic management measures (Chapters 3 and 5). The needs of pedestrians will not be ignored and the Government aims to adopt measures to improve safety on the roads (Chapter 4).
19 Because it is so difficult to squeeze more roads into the existing urban areas, the Government decided to construct the MTR, the first section of which is expected to open in 1979. The Modified Initial System (MIS) linking Kwan Tong to Central District will be completed by March 1980 and the Tsuen Wan Extension is expected to open towards the end of 1982. The Government would welcome a proposal from the Mass Transit Railway Corporation to extend the MTR from Kwan Tong to Ma On Shan station but it considers that, with the exception of this extension, there should be no further extensions until the effects of the MTR are known. Of the 7.5 million daily boardings* on public transport in 1986, 1.8 million are expected to travel on the MTR, speedily and in air-conditioning, easing the road situation and benefitting the environment (Chapter 6).

20 The whole of the KCR main line from Hung Hom to Lo Wu is expected to be double-tracked and electrified and, by 1986, it is expected to have 250,000 boardings a day. This modernisation will benefit the passengers using the system, in particular those who will be living in the new town of Sha Tin, by providing them with a more comfortable and faster public transport mode. It will ease the road situation, benefit the environment and will provide an increase in the freight-carrying capacity of the railway (Chapter 7).

21 By about the same time as KCR is electrified, Hong Kong Island may have a Light Rail Transit system* in operation on its own reserve. Such a new system could initially incorporate single-decked, electric vehicles travelling 50% faster than the present fleet of trams and providing about 50% more capacity. They might also be air-conditioned. This would be only the first phase of a programme to develop an underground mass transit rail system on the north shore of Hong Kong Island. The next phase could be the provision of an interchange to interconnect the Light Rail Transit system with the MTR at Admiralty and Chater/Pedder Stations (Chapter 8).

22 Ferry services will continue to be important in offering an alternative to the cross harbour tunnel and in providing a means of achieving recreation at week-ends and holidays. Additional capacity will be needed to meet an expansion in the demand for courting district ferry services. As regards cross harbour services, passenger demand is expected to suffer only a temporary set-back from the opening of the MIS and later the Tsuen Wan Extension (Chapter 9).

23 In 1978, there were 3.1 million boardings a day on franchised buses out of a total of 5.6 million boardings on public transport. The importance of buses is expected to continue; in 1981 they are expected to account for 3.2 million boardings a day out of a public transport total of 6.8 million and in 1986 for 3.0 million boardings out of a total of 7.5 million boardings. Bus services will be fitted appropriately into the new situation created by the mass transit railway, the possible Light Rail Transit system and the electrified KCR, all coming on stream in the early 1980's. In the process of adding to the capacity of and reshaping bus services, one of the aims will be to reduce the present overcrowding on buses (Chapter 10).

24 Previous paragraphs have briefly outlined what the Government aims to add to the transport infrastructure to improve public transport. These growth areas for the transport sector, which the Government aims actively to encourage, will be described in detail in later chapters of this White Paper. It has to be recognised, however, that parts of the transport mix will have to be restrained if the level of mobility, as previously defined, is to be achieved. Public Light Buses are one of the modes which need to be further restrained as their function of moving people en masse is progressively taken over by such high capacity modes as the MTR, the KCR, the possible Light Rail Transit system and the franchised buses, all of which are more suited to this task. The Government's aim is to reduce the number of PLBs operating in corridors where high capacity carriers will carry the bulk of passengers. More maxicab services will be introduced away from these heavily used corridors (Chapter 11).

25 The Government also aims to constrain the numbers and use of goods vehicles and particularly light goods vehicles, the numbers of which on our roads, both parked and moving, are growing rapidly and are adding increasingly to congestion. Measures such as parking controls, loading and unloading restrictions, restrictions on goods vehicles using certain roads at certain times and fiscal methods will be used to rationalise the movement of freight on our roads, particularly in the case of under-utilised light goods vehicles. Off-street goods vehicle parking facilities for the new towns are being investigated (Chapter 13).

* Please see Glossary.
26 Motor cycles and private cars contribute a great deal to congestion relative to the contribution which they make towards moving people. Together with contract hire cars and taxis, they constitute three-quarters of road use by all passenger modes, yet they account for only one-quarter of all passenger movement. Despite the massive road construction programme which is being planned and undertaken, it will still be necessary to discourage the growth of private motoring, using parking controls and various fiscal methods as instruments of restraint. Some measure of this growth can be obtained from the expected effect of the restraints recommended in the CTS report; even if these were implemented, the report indicates that private car registrations could increase from 145,000 today to about 280,000 in 1991. (Chapter 14).

27 Taxis and contract hire cars are also major contributors to traffic congestion. Taxis are even less efficient users of road space than private cars because they travel without passengers for much of their time on the road (a characteristic they share with hire cars) and they tend to congregate in the highly congested, urban areas. Whilst it proposes to continue to increase the supply of taxis, the Government has taken steps to control the demand by raising fares while, at the same time, requiring an improvement in the quality of the services they provide and taking firmer action against malpractices. Taxis will be supplemented by contract hire cars operating from fixed locations (Chapter 14).

The New Transport Infrastructure

28 Future investments elaborated in this White Paper will completely transform Hong Kong's transport system, and especially public transport, in the early 1980's and beyond. At the present time, when much of the works involved have already started or are about to start, the traffic situation, far from improving, is being made worse by the inevitable disruption involved in construction. By early 1985, however, an extensive new network of roads, tunnels and railways will be in operation, maintaining and improving journey times all over Hong Kong. Further investments in the second half of the eighties will add to the system and will ensure that, provided the necessary restraints are imposed on private transport, journey times for a vastly increased number of journeys will be improved.

29 The Government plans to spend in the order of $14,000 million at 1979 prices on investment in roads, tunnels and railways over the next five years. The developments expected can perhaps be best illustrated by setting them out in time periods and by the main corridors of travel. First, by 1981 the MTR will be in full operation from Kwun Tong to Central District carrying about a million passengers a day and it will be supported by an integrated system of ferries, buses and PLBs. A new Kwun Tong Interchange should also be operating making it easy for passengers to transfer between the KCR and the MTR. The KCR should be double-tracked and electrified with trains running every three minutes between Shek Tin and Kowloon in peak periods. Frequent bus and ferry services should link Hung Hom Station to various points on Hong Kong island and there should be a shuttle bus service between the station and Tsing Sha Tsui. The new Kwun Tong Road and Airport Tunnel Road should also be open. To the west, there should be the full six-lane Tuen Mun motorway from Tsuen Wan to Tuen Mun. Both tubes of the Lion Rock Tunnel will have been in operation for some time and the road to the north of the tunnel will be widened. Beyond Sha Tin the new six-lane coastal road to Tai Po should be well advanced. At the Kwun Tong end of the Lion Rock Tunnel, the grade-separated intersection of Cornwall Street/Waterloo Road/Junction Road will be operating. The Aberdeen tunnel and Canal Road flyover will link Aberdeen to the cross harbour tunnel, with express buses operating through them and a decision on a further harbour crossing will probably have been taken.

30 By 1983 on Hong Kong Island a new Light Rail Transit system, with a largely reserved right-of-way, could be functioning along the north shore.

31 By 1985 the Tsuen Wan extension of the MTR will have been operating for two years and the MTR should then be carrying up to 1.8 million boardings a day. The target date for the completion of the full West Kowloon Corridor and the Tsuen Wan By-Pass, joining with the Tuen Mun Road, is 1984. By that date, express buses from Tuen Mun should link into the MTR at Tsuen Wan and enable a journey to be made from Tuen Mun to Central District on Hong Kong Island within an hour. By this time also, two new roads linking Sha Tin to Lai Chi Kok and to Tsuen Wan could be in operation. These two roads will provide better access to the New Territories and between parts of the New Territories and, by diverting traffic, will also benefit users of Castle Peak Road, Kwai Chung Road and the existing Tai Po Road.

* Please see Glossary.
32. On Hong Kong Island the road system along the Island Corridor should be considerably improved. First, the waterfront road should be extended to Shui Kei Wan. The target date for completion of the elevated Connaught Road through Central to the West is 1984 and the widening of Connaught Road along the Western reclamation should also be completed by 1985. Express buses will be travelling along these new roads and the existing waterfront road, linking up with the MTR at Admiralty Station and with other express buses through the Aberdeen and cross harbour tunnels. The first underground section of the Light Rail Transit system could also be completed, providing a cross-platform interchange with the MTR at Admiralty Station and a further interchange at Chater/Pedder Stations.

33. By 1991 longer sections of the Light Rail Transit system could be operating underground, including a tunnel to a new depot at Chai Wan and the system could be moving towards a full mass transit railway, integrated with the MIS and Tsuen Wan Extension of the MTR. The Island Eastern Corridor should be completed. On the Kowloon side, the MTR should be extended from Kwun Tong to Ma Yau Tong.

34. It is in the New Territories, however, that the more spectacular developments should be seen in the second half of the decade. By 1986 the three new towns of Tsuen Wan/Kwai Chung/Tsing Yi, Sha Tin and Tuen Mun should be building up to their planned populations of roughly 900,000, 500,000 and 500,000 respectively. Market towns at Tai Po, Yuen Long and Fanling/Shing Shui should also be developing. Between 1986 and 1991 there are plans for completing the New Territories circular road from Tsuen Wan to Tuen Mun, Yuen Long, Fanling, Tai Po and back to Sha Tin, with express bus routes operating along most of its length. Together with the railways, this road network should provide for the greatly increased travel that can be expected at that time between the new towns and market towns and between these towns and the existing urban area.

35. A diagram, showing in schematic form the developments described above is at Figure 1. It illustrates the railways, roads and tunnels likely to be in service by 1991.

36. All of these will be exciting developments for Hong Kong and they will provide it with a transport network, and particularly a public transport network, that should stand comparison with any city and its hinterland, in the world. But they will not be achieved without effort in terms of money, work and ensuring disruption. And, given the inevitable time involved in construction, they will have to be awaited with patience. The following chapters describe, in more detail, the Government’s plans for the roads and for each of the main modes of transport and other related matters. They also deal with the important problem of providing for pedestrians and road safety and the special difficulties of transporting school children and the physically handicapped.
Fig. 1 MAJOR TRANSPORT INFRASTRUCTURE IMPROVEMENTS BY 1991
Chapter Three

THE ROAD PROGRAMME

37 The efficient working of Hong Kong's transport system must depend on the provision of an adequate road network since buses, trams, PLBs, goods vehicles, motor cycles, private cars, hire cars and taxis all use road space. Even the KCR, the MTR and the ferries, which place no direct demand on road space, require a comprehensive road network for their bus and PLB feeder services.

38 The nature of Hong Kong's urban environment means that opportunities to extend and improve the capacity of the road network are rapidly decreasing. Containing road congestion in the face of physical, fiscal and environmental limitations largely depends on an integrated programme of road development and improved road use, which must include restraints on certain categories of vehicle.

Road Development
39 The CTS report identified a road programme which does not differ significantly from the proposals in the Long Term Road Study prepared in 1968, and which is considered to be capable of construction and within Hong Kong's physical and financial capacity over the next decade. Where appropriate, the Government is beginning to employ such techniques as cost/benefit analyses to monitor the development of this road programme.

40 The CTS considered that a road expenditure programme of $4,000 million, at 1974 prices, would be appropriate for the years 1973–1991. Implementation of the Government's present plans would involve expenditure of more like $7,000 million, at 1979 prices, on projects commencing but not necessarily being completed between 1979 and 1983. This reflects a number of factors amongst which the most important are:

(a) The CTS concerned itself only with major road projects whereas the five-year programme covers the total capital investment in roads over the next 5 years;

(b) general price inflation has been particularly prevalent in the construction industry; and

(c) major new items, such as the fixed road crossing to Lantau, have been introduced into the road programme.

41 To ensure the correct phasing of investment in new roads and to determine the need and timing for restraint measures, the Public Works Department will continue to measure traffic conditions at a large number of locations throughout the Territory. Based on the analysis of these measurements and the use of such techniques as cost/benefit analyses, modifications to road building programmes and/or restraint measures will be instigated to maintain a satisfactory traffic flow. Of course, many large-scale road building projects, such as the Aberdeen tunnel and the Tsuen Wan By-Pass are clearly needed already and the Government is committed to their construction as rapidly as possible. Changes in land use development proposals will inevitably require new large scale road investment and so the Government will ensure that new projects required to meet changing development needs are appropriately introduced into the road programme.

42 Projects in the road programme for the next five years are illustrated at Figures 2, 3 and 4. Appendix B lists these projects, together with an estimate of commitment and timing within the five year period. The development and expansion of the road network will help to maintain and improve mobility for all road users and some major projects, such as the Aberdeen tunnel, the Airport tunnel and the new road linking Sha Tin and Tai Po are predicted to have dramatic effects on travel habits.

43 The Aberdeen Tunnel is expected to be opened by 1981. It will provide a dual two-lane carriageway in 1.9 kilometres of tunnel between Wong Chuk Hang and Happy Valley. The time savings resulting from this high speed connection for travellers to and from the south side of Hong Kong Island are expected to be considerable. Moreover, this tunnel together with the improvements to its approaches will have two additional benefits. First, it will divert traffic which is presently forced to use the congested routes through Western District or Wong Nei Chung Gap and will thereby benefit road users in those areas. Secondly, it will enhance the development potential of the southern part of the Island.
Fig. 2 PROJECTS IN THE CURRENT 5-YEAR ROAD PROGRAMME – HONG KONG ISLAND
Fig. 3  PROJECTS IN THE CURRENT 5-YEAR ROAD PROGRAMME – KOWLOON
Fig. 4  PROJECTS IN THE CURRENT 5-YEAR ROAD PROGRAMME – NEW TERRITORIES
44 The Airport Tunnel will also provide significant time savings for travellers between Kwan Tong and Hung Hom and the rest of the Kowloon peninsula. This dual two-lane carriageway will connect Kwan Tong Road and Kowloon City Road by means of a tunnel beneath the airport runway. It is expected to benefit industrial and commercial traffic to and from Kwan Tong now uses Prince Edward Road and creates congestion, particularly at Kowloon City roundabout.

45 The New Road Linking Sha Tin and Tai Po is required for three reasons. First, the population in the new town of Sha Tin is expected to grow to 500,000 by 1986 and thereby create a major urban centre in the New Territories which will attract passenger and freight traffic from other smaller, though growing communities such as Tai Po, Fanling and Sheung Shui. The second reason is the creation of the industrial estate at Tai Po. The third requirement for this road is to cater for the growing recreational demand placed upon all New Territories roads. The construction of this dual three-lane carriageway running for 10.5 kilometres between Sha Tin and Tai Po will improve travel times between these two areas and will provide better access to the countryside for residents in the urban areas.

46 In the urban areas of Hong Kong and Kowloon much of the planned expenditure on new roads is for high capacity, grade-separated, limited access roads which are needed to relieve areas where congestion is endemic. However, it is only to be expected that, as a result of the continuous review of these and other roads planned for the future, the programme will be amended. Two projects, which would have highly significant implications for the Territory and which are foreseen in the years to 1991, are discussed below.

47 Additional Harbour Crossings. The recent significant growth in cross harbour vehicular traffic is expected to continue and to result in the cross harbour tunnel and its approaches becoming fully utilised. If the demand is to be met, either additional vehicular ferry services or an additional fixed harbour crossing will be required. The former possibility will be limited by the availability of pier concourses and loading facilities and the latter by connecting land-side facilities. To help determine the best course of action, the Government proposes to commission a Cross Harbour Study which will investigate the location and timing of all the options.

48 Lantau Development—The Government is carrying out an investigation of the development potential of Lantau Island (including the way in which development could be controlled) and the road facilities required for this development. The results of this investigation should soon be available, but preliminary indications are that a fixed road crossing to Lantau could be constructed. If this were undertaken, its object would be the development for industrial, commercial and residential purposes of North Lantau and, accordingly, a road will be constructed along the northern coast at least as far as Tung Chung. The Government is conscious of the need to preserve parts of Lantau for leisure activities and so an important factor regarding any development proposals is the effect which they may have on the island as a recreational area. The aim will be to improve the existing road system in the south of the island so as to accommodate increased public transport demand at week-ends and public holidays, but physically to separate this “recreational system” from the possible Lantau fixed road crossing and associated approach roads on the north side.

New Towns

49 The development of the new towns and market towns requires, as a prerequisite, a transport infrastructure which has an adequate road system at its heart. The Government has considered it essential not only that these towns shall have good road links with the urban areas, but that their internal road networks are carefully planned. Considerable research has been done on the internal transport requirements of the new towns. One innovation that is under investigation is the introduction in Tuen Mun of a segregated public transport right-of-way. Although the widespread application of this innovation to other urban areas is unlikely, the exclusive public transport right-of-way, if introduced, will be closely monitored to determine its effectiveness as a means of improving road use and public transport operation. Great importance has also been attached to public passenger transport in Sha Tin which will have a bus priority system, providing bus-only lanes, which will enable buses to by-pass other traffic.

Environmental Impact of Roads

50 The demand for additional road space is in conflict with the ever decreasing opportunities for keeping new roads away from noise-sensitive development in the community and it has resulted in many areas of Hong Kong being dominated by the noise, smoke, vibration and visual intrusion of roads and the traffic on them. Innovative and ingenious technical solutions to civil engineering problems involved in road construction have been impressive but the quality of life adjacent to flyovers, elevated roads,
interchanges and so on has often been affected. A rising awareness of the environment and a growing
demand for higher standards of living mean that the public are, and increasingly will be, more con-
cerned over the impact of transport proposals, particularly roads, on their way of life. The Government
shares this awareness of the impact of large-scale road development on a dense urban area. In 1977
an Environmental Protection Unit was created in the Environment Branch of the Government Secret-
ariat to advise on means of controlling pollution in all its forms. One of the duties of this Unit is to
examine the noise, fumes and vibration that are likely to be generated by new roads and the traffic that
subsequently flows on them. This should allow appropriate measures to be taken at the design stage,
aimed at reducing the adverse environmental effects of both the roads themselves and the engineering
works during the construction period.

51 The Environmental Protection Unit will devote the major part of the resources which are available
to it for work on transport-related problems to urban areas where the adverse effects on health,
safety and amenity are more pronounced. However, the need to preserve amenity in country parks, as
well as in scenic and general recreational areas, means that consideration must be given also to the
environmental impact of roads and traffic in these places. The object will be to minimise the environ-
mental ill-effects of road building throughout Hong Kong.
Chapter Four

PEDESTRIANS AND SAFETY ON THE ROADS

Pedestrians
52 Pedestrian circulation is an integral and vital part of the urban transport system. High rise buildings and high occupancy rates of buildings in Hong Kong result in tremendous concentrations of people and a great deal of conflict between the needs of pedestrians and vehicles, imposing noise and air pollution and threatening the lives of the pedestrians. In maintaining and improving mobility, the needs of the pedestrian must not be overlooked and the Government is planning pedestrian facilities as an integral part of new transport systems in developing areas. Such facilities include pedestrian precincts, tunnels and bridges segregated from traffic, as well as adequate pedestrian facilities at traffic lights. Good pedestrian links between different transport modes are particularly important if public transport is to be encouraged.

53 This approach to pedestrian needs is not confined to the new towns. Areas being redeveloped, such as Central District, present an opportunity for the construction of improved pedestrian facilities and this opportunity is being seized wherever possible, with the provision of internal shopping malls, elevated walkways, subways and pedestrian bridges being undertaken or encouraged.

54 The really difficult problems for pedestrians arise in the older established, highly developed, urban areas. All that can be done in such locations is to provide new, grade-separated facilities (bridges and tunnels) wherever possible. But such separated facilities are often not physically feasible because of the lack of land for their construction or objections from owners of buildings located close to the proposed facilities. Experiments in providing pedestrian-only streets have not proved very popular although the scale of their provision has been small because of the difficulties of finding other routes for the displaced traffic. It is clear that the pedestrian situation is particularly onerous when road or building works take place adjacent to pavements in the urban areas. The pedestrian loses pavement space and is often forced to walk on the roads. However, the difficulties of doing anything about this in Hong Kong’s limited area are considerable.

55 The Transport Advisory Committee considers an annual report on pedestrian problem spots and recommends the provision of pedestrian facilities where feasible. There are now 450 such facilities - footbridges, subways, zebra crossings and signal-controlled pedestrian crossings. The Public Works Department has selected possible sites for a further 160 grade-separated footbridges/subways and is continuing with plans to provide additional crossings at grade.

Safety on the Roads
56 The movement of vehicles on the roads involves a continuing toll of deaths and personal injuries for drivers, cyclists, passengers and pedestrians. The cost is tremendous since road accidents place demands on hospitals, medical staff and emergency services, block up roads, cause suffering for the victims and anguish for their families. Traffic accidents often bring with them financial distress through loss of earnings. Many traffic accident victims are permanently disabled thereby becoming a burden for the remainder of their lives. The development of our transport system must take into account this toll and the requirements of road safety.

57 In 1978 there were 19,772 traffic accident casualties* of whom 437 people were killed, 6,678 seriously injured and 12,657 slightly injured. Whilst there are factors other than the number of vehicle registrations which affect the number of road accidents, the prospect of vehicle registrations increasing to 1991, despite restraint measures, brings with it a prospect of increasing accidents. The need for an effective road safety programme is therefore clear and this is being developed by the Standing Conference on Road Safety.

* Please see Glossary.
Established in 1973, this Conference is chaired by a senior representative of the Commissioner of Police and its membership includes representatives of the Road Safety Association, the Secretary for the Environment, the Commissioner for Transport, the Director of Education, the Director of Information Services and the Director of Public Works. Its terms of reference include assisting the Commissioner of Police in conducting road safety campaigns, disseminating road safety information and devising, promoting and encouraging the adoption of precautionary measures to prevent traffic accidents and to mitigate their consequences.

Detailed records of traffic accidents are kept by the police. From these it is clear that:
(a) the most important single cause of traffic accidents is motorists driving too fast for prevailing conditions;
(b) the second most important cause is pedestrian carelessness;
(c) motor cycles are easily the most dangerous vehicle category;
(d) the number of bicycle accidents is giving cause for concern; and
(e) the 20-30 age group runs the highest traffic accident risk.

Motorists Driving Too Fast
In 1978, 36% of all traffic accidents were considered by the police to be due to motorists driving faster than road conditions warranted. This does not necessarily mean speeding but driving too fast in conditions where, for instance, there are numerous pedestrians or slippery roads, making the safe speed to drive considerably less than the legal limit. It is proposed to increase driver education and police enforcement action against such behaviour.

Pedestrians
Almost one-half of road accident casualties are pedestrians and, in 1978, 26% of road accidents were considered by the police to have been caused by pedestrian negligence. The reduction in road accidents to be gained from segregating pedestrians and vehicles is obvious and it has already been explained that such segregation will be sought where it is feasible. Of comparable importance is prosecuting jaywalkers. This will continue on its present limited scale, concentrated on areas where pedestrians are at greatest risk because such prosecutions involve a great deal of police time and effort.

Motor Cycles
In 1978, motor cycles constituted only 9% of vehicle registrations but they featured in 12% of all road accidents involving personal injury. There are several reasons for this. By its very nature, the motor cycle provides the minimum of protection to its rider in the event of an accident. By comparison with a four-wheeled vehicle, there is also far greater danger of a motor cycle skidding or going out of control. The majority of motor cyclists are young persons of an age group which is excessively prone to accidents. The Government feels that it can improve matters by establishing off-street areas for motor cyclists to learn how to control their machines before taking to the road, by restrictions on hiring motor cycles and by restrictions on areas where motor cycles may be used. Consideration is being given to all of these possibilities.

Bicycles
In general, pedal cyclists, whether they are riding heavy trade cycles or cycling for sport and recreation, have a poor reputation for road safety. Cyclists often do not observe pedestrian crossings or traffic lights, wrongly assuming a right of way in all circumstances. Younger riders who hire bicycles for recreation often have little road sense and little control over their machines. Cyclists who take up the activity as a sport often present difficulties to motorists seeking to overtake them. As a result, far too many cyclists end up as road casualties. In 1978, 800 out of a total of 20,000 road accident casualties were cyclists.

It is not practicable to license bicycles or cyclists because of the administrative and enforcement problems involved; but the problem is being tackled by such measures as the provision of cycle tracks in the New Territories; continuing publicity (particularly on TV) warning of the dangers to which cyclists are exposed; police advice, caution and prosecutions for erring cyclists; and the inclusion of precautions for cyclists in police lectures to school children on road safety.

Age Groups at Risk
Table 1 shows the distribution of traffic accident casualties and population between various age groups in 1978:
<table>
<thead>
<tr>
<th>Age Group</th>
<th>Population (%)</th>
<th>Casualties (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10 years</td>
<td>17.3</td>
<td>9.8</td>
</tr>
<tr>
<td>10 to under 20</td>
<td>22.7</td>
<td>20.2</td>
</tr>
<tr>
<td>20 to under 30</td>
<td>19.4</td>
<td>30.7</td>
</tr>
<tr>
<td>30 to under 60</td>
<td>31.2</td>
<td>28.5</td>
</tr>
<tr>
<td>60 years and over</td>
<td>9.4</td>
<td>10.3</td>
</tr>
<tr>
<td>age unknown</td>
<td>—</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

These figures indicate that children feature in fewer traffic accident casualties than their proportion of the total population would lead one to expect. To some extent this may reflect fewer trips made by children but it must, to some degree, be a reflection of the effectiveness of the work of the Road Safety Association and the Royal Hong Kong Police Force. It has long been recognised that education and persuasion, particularly of children, in road safety matters is of great importance. For many years, road safety has been taught in schools, not only by the teachers but by police road safety teams. These teams aim to visit each primary and secondary school at least once a term in order to give illustrated talks on road safety. In addition, instruction in road safety is given at a “Safety Town” in Sau Mau Ping, which is administered by the Urban Council and hooked for school parties by the Education Department. This work in schools is given high priority by the police Road Safety Unit and is complemented by the activities of the Road Safety Association.

The Road Safety Association, a voluntary organisation founded in 1961 and now subvented by the Government, has done a very great deal to promote road safety. The Association is represented on the Standing Conference on Road Safety and acts as a channel of communication between the Government departments, Kai Fong and other community organisations. It assists in the annual road safety campaigns sponsored by the Standing Conference on Road Safety and possesses a mobile road safety exhibition vehicle (operated by the police) which contains display material on road safety matters and a number of electronic games illustrating the Highway Code. One of the Association’s principal activities, and its greatest success, is the formation and training of School Crossing Patrols. These patrols consist of school children who wear a distinctive uniform and control pedestrian crossings in the vicinity of their schools. In 1978, there were road safety patrols supervising more than 150,000 school children and no child has ever been killed, or suffered injury, when under the protection of a patrol. The Government proposes to continue and, if possible, to increase the support and subvention which it provides to the Association.

Other age groups suffer as victims of traffic accidents more or less in proportion to their significance in the total population – with the exception of the 20–30 age group which constitutes 19% of the population yet accounts for 31% of road accident casualties. This phenomenon may be explained by the fact that young people in their 20’s are at greater risk because they may make more use of the roads and are more inclined to rashness, both as drivers (particularly of motor cycles) and as pedestrians. But there is a need for a clearer explanation of the heavy toll suffered by this age group and this points to a need, which the Government accepts, to conduct or sponsor more research into the causes of accidents. Accordingly, the Public Works Department and the Royal Hong Kong Police Force are planning to set up a Traffic Accident Research Unit which will carry out such research.
Chapter Five

MORE ECONOMIC USE OF ROADS

69 The Government's three courses of action to preserve and improve mobility have been described in this White Paper as being to improve the road system; to expand and improve public transport; and to make more economic use of the road system. Making more economic use of the roads has two broad aspects in addition to the enforcement of existing traffic laws:

(a) Employing a variety of techniques to maximise the flow of all traffic along our roads, no matter what the mix of that traffic; and
(b) Making the mix of the traffic accord with priorities.

Techniques to Maximise Traffic Flow

70 Traffic management schemes have long been employed in Hong Kong, taking such forms as prohibiting stopping and certain turns; the phasing of traffic lights; introducing one-way systems; segregating pedestrians and limiting on-street parking. These measures will be extended in the future. A system known as Area Traffic Control (ATC), which links traffic signals to a computer so that signal phasings are determined and set according to traffic demand, was introduced in West Kowloon in 1976. While the results of this system have been masked by the effects of the construction of the MTR, preliminary indications are that improvements in traffic flow have resulted from its introduction. The effects of this scheme will be monitored over the months ahead with a view to extending it to other areas in Kowloon. In addition, the desirability of introducing ATC schemes in the new towns and on the north shore of Hong Kong Island is also being examined.

71 The Government is currently carrying out investigations on modern traffic surveillance control systems to determine which is best suited for Hong Kong's increasing mileage of high-capacity express roads, tunnels, grade-separated interchanges, elevated highways and limited access roads. These are expensive highways and should be operated at maximum efficiency to divert traffic from congested local and distributor routes. This means that, as soon as a hold-up occurs, the obstruction has to be removed - a difficult task where there is limited access. The aim of traffic surveillance and control is to monitor the build-up of traffic with a view to preventing congestion before it arises and, upon occurrence of an accident, to provide immediate information to the traffic control agency so that the accident can be dealt with expeditiously and the traffic returned to normal as quickly as possible. The Government is building up a capability, akin to that available for the cross harbour and Lion Rock tunnels, to deal quickly with obstructions as they arise on the growing mileage of limited access roads.

72 As regards tolls on limited access roads, the primary aim is to ensure adequate use of the tunnels, bridges and roads involved so that they satisfy the purpose for which they were built, namely to attract traffic from existing congested roads. No tolls should be levied on these facilities if to do so would frustrate this objective. Toll collection also costs money and creates delays but tolls may properly be imposed:

(a) to limit the use of a facility if it or the areas which it serves are threatened with congestion; and
(b) wholly or partially to meet the cost of the facility if its adequate utilisation would not thereby be jeopardised.

73 At present too much road space is pre-empted by illegal on-street hawking. The Government intends to pursue a hawker policy which, while making more road space available for traffic by moving hawkers into suitable off-street sites, will license those who remain to operate from designated sites in Hawker Gazetted Streets. These streets will be selected and the sites arranged so as to have the minimum effect on traffic flow.

74 Another way of aiding the smooth flow of traffic on our roads is to ensure regular vehicle inspections. This reduces the likelihood of their breaking down and adding to road congestion. The Government plans to increase the number of vehicle inspection centres and the specialist staff necessary to operate them. A higher standard of roadworthiness should result from these measures and accidents caused
by defective vehicles should be reduced. At present the Transport Department carries out the following vehicle inspections:

(a) pre-registration examination of omnibuses, light buses, taxis and goods vehicles;
(b) pre-registration examination of the first of each new model of private car and motor cycle and of all imported used vehicles;
(c) examination and tit testing of each new franchised omnibus model;
(d) annual inspections of non-franchised omnibuses, light buses, taxis and vehicles carrying dangerous goods;
(e) half-yearly examinations of all taxi meters; and
(f) inspections of vehicles reported to be defective and causing possible danger on the road.

These inspections are carried out in three vehicle examination centres located at To Kwa Wan, Tsuen Wan and So Kun Po, which have a combined capacity of 45,000 inspections a year.

Regular mechanical inspections for motor vehicles ensure their roadworthiness, their compliance with various requirements of the Road Traffic (Construction and Use) Regulations and the effectiveness of measures to control air and noise pollution. Accordingly, a new vehicle examination centre is being built at Kowloon Bay which will open this year. This centre will have a capacity for 51,000 annual vehicle inspections and, when it is open, it is proposed to introduce annual inspections for all goods vehicles. At that stage, the only major vehicle category not undergoing an annual inspection will be the private car and the next priority would be for all private cars older than 6 years to be inspected annually prior to relicensing. With this in view, additional examination centres on Hong Kong Island and Tsuen Wan will be opening in the early 1980's.

Getting the Mix of Traffic Right

Even when account is taken of the heavy road investment programme now underway in the Territory and the expansion in and improvement of the public transport system; even if traffic management and other schemes are used to maximise the flow on our road system; and even if working and travelling hours are staggered to the maximum extent practicable, the continuing growth in traffic will still threaten serious congestion. If congestion is to be eased, therefore, both passenger and freight movement on our roads will have to be carried out more efficiently. Table 2, derived from the report on the CTS, brings out the efficiency, in road use terms, of public and private transport.

<table>
<thead>
<tr>
<th>Mode</th>
<th>% of passenger vehicles on the roads (in p.c.u. kilometres)</th>
<th>% of passengers on the roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public transport (buses, trams and minibuses)</td>
<td>26 %</td>
<td>75 %</td>
</tr>
<tr>
<td>Private transport (motor cycles, private cars, hire cars and taxis)</td>
<td>74 %</td>
<td>25 %</td>
</tr>
<tr>
<td></td>
<td>100 %</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Private transport constitutes three-quarters of the use of roads for passenger movement but does only one-quarter of the work of moving passengers along the roads. This is inefficient. By contrast, public transport modes are responsible for three-quarters of all passenger movement along the roads but account for only one-quarter of road use for passenger movement. The reason is clear: a bus carrying 100 or more passengers (as happens in peak hours) occupies less road space than 50 cars each carrying the driver and one passenger.

The Government accepts that each transport mode has its own particular part to play in moving people and goods. In according priority to particular modes, there is room for argument about the exact ranking. However, the Government's view of the hierarchy of efficiency in road use terms for the various transport modes must be set out in this White Paper. In this context efficiency means the volume of passengers or freight carried per unit of road space employed.

* Please see Glossary.
For passenger (as opposed to freight) carriers, trains and ferries place minimal demands on roads and must be considered the most efficient carriers. Buses come next in the hierarchy because of all road users they carry the largest number of people per unit of road space employed. Minibuses are less efficient than buses because they carry fewer passengers per unit of road space employed. For the same reason, motor cycles and private cars are less efficient than minibuses and the least efficient passenger modes are contract hire cars and taxis which use road space even when they are not carrying passengers. As regards freight carriers, trains are the most efficient mode, placing little demand on road space. By analogy with buses and minibuses, heavy goods vehicles are more efficient road users than light goods vehicles. Each of these modes is further considered in subsequent chapters, which indicate the Government's plans for encouraging the use of the more efficient members of the hierarchy and constraining the less efficient.
Chapter Six

THE MASS TRANSIT RAILWAY

80 In 1972 the Government decided that Hong Kong should build a Mass Transit Railway (MTR). The Mass Transit Railway Corporation Ordinance came into operation in September 1975 when the Board of the Mass Transit Railway Corporation (MTRC) was appointed. In 1975, the first contracts were let for the part of the MTR referred to as the Modified Initial System (MIS), extending from Central District to Kwun Tong. The cost of the system, at 1975 prices, was estimated to be $4,500 million, excluding crown land premia and finance and interest charges.

81 The construction of the MIS is now underway and it is expected to begin partial operation in October 1979 and full operation by March 1980. The line is expected to have about one million passenger boardings a day in 1981 when boardings on all public transport modes, including the MTR, are predicted to be about 6.8 million daily.

The Reasons for Building the MTR

82 Despite the very high costs involved, a number of arguments led the Government to conclude that Hong Kong should have a Mass Transit Railway. In the first place, there are limitations to the availability of kerbside space on many urban roads. Even if passengers on public transport could be induced to transfer from smaller to larger capacity modes (e.g. from PLBs to buses), although this would reduce road congestion for moving traffic it would not solve the problem associated with the loading and unloading of passengers. As more buses are brought into service, they have to pick up and set down passengers at the kerbside and, in so doing, deny that kerbside space to other buses which have to wait in the traffic stream. This means that congestion is increased, buses and traffic in general are slowed down and that the buses, in turn, by travelling more slowly, are able to carry fewer passengers.

83 A second argument for building the MTR was that it would reduce the volume of traffic on the roads, albeit only to a limited extent, because most of its passengers would be drawn from users of public, rather than private, transport. A third argument was the direct benefits that the MTR would confer on the large number of people who would use it. These benefits are, in essence, air conditioned travel, reliability of service and speed. During peak periods trains, operating regularly at two-minute intervals, will carry passengers from Kwun Tong to Central in 40 minutes compared to 60 minutes by bus. These times include time spent waiting and walking. Higher quality of travel by MTR may reasonably be expected to lead the railway to generate its own passenger demand, as have the PLBs and cross harbour tunnel buses in the past. A fourth argument for the Mass Transit Railway was that it would add a great deal of capacity to Hong Kong's public transport system while being financially viable. A fifth argument was that the MTR would ease the pressure on existing modes and improve their quality of service by reducing crowding and waiting times. It would also free buses and minibuses for use outside the mass transit corridors, thereby making public transport a more attractive alternative to motor cycles, private cars, hire cars and taxis in those areas. Finally, there were strong environmental arguments for introducing into Hong Kong's crowded urban areas a mode of transport which minimised noise and air pollution and was relatively accident-free.

The Tsuen Wan Extension

84 In July 1977 the Government agreed to the Mass Transit Railway Corporation's proposal to extend the Modified Initial System to Tsuen Wan. This extension should be completed in late 1982 (some three years after the MIS begins partial operation) at an estimated cost of $2,900 million, at 1975 prices, excluding crown land premia and finance and interest charges. The combined system is expected to have about 1.8 million boardings a day by the mid-1980's. By then, public transport passenger boardings on all modes, including the MTR, are predicted to reach about 7.5 million a day.

85 The Government and the Corporation concluded that an extension to Tsuen Wan was the next logical step after the MIS. The specific problems of the Tsuen Wan corridor are reflected in an already serious level of road congestion at important locations in Lai Chi Kok and Castle Peak Road,
causing surface public passenger transport to move quite slowly and at times unreliable. The report on
the CTS predicted that, even with severe restraints on private transport and PLBs, road conditions
would deteriorate as Tsuen Wan/Kwai Chung/Tsing Yi and Tuen Mun developed to populations of
900,000 and 500,000 in 1986. The road system is being improved as much as is feasible but, in the
absence of the Tsuen Wan Extension of the MTR, it would not be able to keep pace with the expected
growth in the demand for passenger and freight movement in this corridor.

The Island Line
86 The CTS report advised that the corridor along the north shore of Hong Kong Island presented
some of the most challenging transport problems in Hong Kong. It recommended that a detailed
investigation should be undertaken of the complexities of the transport investment required in this
corridor. The Government accepted this recommendation and commissioned an Island Corridor
Study. This study has been completed, its recommendations have been accepted, in principle, and are
now being further developed.

87 The study recommended that, although the passenger demand warranting a mass transit line along
the corridor might not materialise before 1991, the option of providing a high speed, high capacity,
underground rail system should be preserved. The recommendations for the Island Corridor are
presented in detail in Chapter 8. They recommend the phased development of a mass transit system
utilising Light Rail Vehicles (LRVs) which are capable of operating both on-street and underground.
One of the underground sections recommended for construction as soon as possible runs into
Admiralty and Chater/Pedder Stations of the MTR, where its provision would result in exceptionally
good interchange facilities between the MIS and the proposed Light Rail Transit system and would,
in effect, make the latter an extension of the former.

Further Extensions to the MTR
88 The Government considers that the MIS and the Tsuen Wan Extension will form the basis of the
MTR system in the immediate future. Nevertheless, the two-kilometre section running from Kwun
Tong to Ma Yau Tong would be simple to construct and, at an estimated cost of $200 million, at 1975
prices, would provide a valuable service to residents at the end of the Lei Yue Mun peninsula, serving
the demand generated by possible future development in the Junk Bay area. Since the CTS report
recommended that this section of the MTR should be constructed if it did not delay construction of
other more urgent sections, the Government would welcome a proposal from the Mass Transit Railway
Corporation to construct this section. Apart from this, however, it is considered that no further
extensions to the MTR should be built until the effects of those already planned are known.

The MTR and Other Public Transport Modes
89 When it is opened, the MTR will form the core of public transport operations in the urban area
and other public transport modes will need to adapt themselves to its existence. As far back as 1972,
when the decision to build the MTR was taken, it was recognised that an integrated system of public
transport, which would optimise the contribution of the MTR and the other modes, particularly
franchised buses, would need to be worked out. This was again emphasised when the decision was
taken in 1977 to extend the MTR system to Tsuen Wan.

90 To meet this need, a planning study, known as DIIPTRANS (Development of an Integrated Public
Transport System), has been commissioned to work out the route network which would constitute
such an integrated system. The results of this study are expected in mid-1979 but it is already apparent
that, even over the corridors served by the MTR, other public transport carriers, particularly buses,
will carry a very substantial proportion of passengers, albeit less speedily than by the MTR. By 1986,
throughout the whole of the Territory, the other transport modes are expected to carry about threequarters of all public transport passengers and the MTR about one-quarter.

91 To help create an integrated and interlocking system designed to shorten journey times and
generally improve the service available to the public, adequate interchange facilities between the MTR
and buses, PLBs and other modes will be designed. As far as possible, passengers will be given a
choice between modes which have different levels of speed, comfort, convenience and cost.

92 The speed, convenience and air conditioned comfort of the MTR will justify premium fares in
the same way as the bus companies' coach services do at present. As time goes on, the MTR's advan-
tages will become more apparent because, being a relatively capital intensive system, its costs of
operation will not increase as rapidly as those of relatively labour intensive alternatives.
The availability of the MTR, with its large capacity, will reduce overcrowding on buses and free them for redeployment in areas not served by the railway. This will increase the attractiveness of buses by comparison with other less efficient and more congesting modes of transport. Indeed, the provision of a modern, efficient and non-congesting mode of transport in the form of the MTR, running through the most densely populated parts of the urban area, is considered to be a good investment.
Chapter Seven

THE KOWLOON-CANTON RAILWAY

94 The British Section of the Kowloon-Canton Railway (KCR), comprising 34 kilometres of track and nine stations, provides a suburban train service for Hong Kong residents and, in conjunction with the Chinese section, it provides international passenger, mail and freight services. At present there are 22 passenger trains and provision for ten goods trains per day in each direction, the number being limited by the capacity of the existing system. The system is already being double-tracked from Hung Hom to Tai Po (including Beacon Hill tunnel) and the Government’s policy is to continue to double-track to Lo Wu.

Modernising KCR
95 The Government plans to transform the KCR into a completely double-tracked, electrified, high-capacity railway, running between Hung Hom and Lo Wu. If the new towns are to be successful, good transport links between the New Territories and the existing urban area are a pressing necessity. This is particularly the case with regard to Sha Tin where the population is expected to increase from its present 60,000 to 500,000 by 1986. On a smaller scale, development of the market towns of Tai Po, Fanling and Sheung Shui will also require such links. The development of urban areas in the New Territories will hinge on the provision of reliable, fast, convenient public transport. Whilst the MTR will provide this for Tsuen Wan, a similar link could not be provided by a Sha Tin Extension of the MTR in time to meet the needs of Sha Tin’s planned development. This was a factor which, in 1977, led the Government to appoint consultants to advise on the possible development of the KCR to provide good passenger access between the existing urban areas and the eastern New Territories and to provide improved freight facilities.

The Consultants’ Recommendations
96 The consultants’ findings and recommendations can be summarised as follows:

Passenger Traction System
The traction system for KCR’s passenger traffic should comprise electric multiple units powered by 25KV alternating current carried on an overhead line.

Additional Lines and Stations
The only extension of the system recommended is to Tsim Sha Tsui and new stations are proposed at Tai Wai, Fo Tan and Kowloon Tong.

Expected Financial Effects
Electrification of the main line without an extension to Tsim Sha Tsui would produce an internal rate of return of 12% at fares 20% above their present level plus annual uprating in line with general inflation, assumed at 7% p.a. Such fares are estimated to strike the right balance between maximising gross revenue and generating sufficient trips to permit the KCR significantly to relieve road congestion. The Tsim Sha Tsui extension would have an internal rate of return of about 5%.

Timing
Electrification of the main line could be completely accomplished before the end of 1981.

Freight
For the time being, freight traffic should continue to be handled by KCR’s existing diesel locomotives and there would be sufficient capacity to handle future freight traffic, which is estimated to lie within a range of 2.5 to 4.0 million tons a year. Additional terminal facilities, mainly at Hung Hom, would be necessary to handle this estimated future traffic.

Environmental Impact
Careful design of tracks, structures and rolling stock should mitigate, but could not entirely eliminate, noise from the passage of trains. Electric passenger trains which are recommended on economic grounds are considerably less noisy than diesel trains and do not directly pollute the atmosphere.
The Government's Views on the Consultants' Report

97 The Government has agreed to the electrification of the railway between Hung Hom and Lo Wu as recommended by the consultants. The proposal is now being processed and, subject to funds being available, the investment will be made. Present plans are for a two-phased approach, with the inner suburban service between Kowloon and Sha Tin to be completed by 1981, if possible, and by the first quarter of 1982 at the latest. The second phase, providing an outer suburban service to Lo Wu would be completed by the end of 1982. However, the proposed Tsim Sha Tsui extension is costly and the Government is looking very closely at the alternative of linking Hung Hom Station to other parts of the urban area by providing frequent bus and ferry services to Hong Kong Island and a shuttle bus service to Tsim Sha Tsui. The Kowloon Tong Interchange Station where the KCR and MTR link up will, anyway, provide a connection for KCR to the stations served by the MTR.

98 An important feature of the modernised KCR will be its close integration with buses and other public transport modes. In particular, good bus interchanges are planned in the redevelopment of stations at Mong Kok, Sha Tin and Tai Po. The interchange between KCR and the MTR at Kowloon Tong will produce a combined urban and suburban railway system. The Government has employed consultants to advise on optimal transfer provision at Kowloon Tong, bearing in mind the interdependence of the two railways, as demonstrated by the fact that 50,000 passengers a day are forecast to transfer there in 1981.

99 The KCR is expected to have 250,000 boardings a day in 1986. Moreover, by 1986, the combined KCR/MTR system is expected to have 2.1 million boardings a day.

100 Ferries and buses will also have a significant part to play in supplementing and complementing services provided by KCR. Ferry services at Hung Hom will still be required to handle the passengers to and from the KCR and the Government intends to provide a good interchange between ferries and the railway at this location. It is also expected that franchised buses will continue to provide alternative services to the railway in the KCR corridor, although the precise balance between the two modes must await the results of the DIPTRANS study referred to earlier.

101 Level crossings where the present railway and road system intersect at grade will be unacceptable for the new high-speed, electrified railway. Accordingly, the modernisation of the railway will incorporate the grade separation of crossings.

102 The Government foresees no pressing need for branch lines, but possible extensions of the KCR will be kept under continuing review.

Freight Traffic

103 The impetus behind the development of the KCR is the need to cope with passenger demand in the New Territories. But the railway also has scope for further development as a freight carrier. Its present freight operation carries 30% of the goods coming into Hong Kong from the People's Republic of China and contributes considerably to the railway's profitability. The Government wishes to increase the railway's freight operations for the following reasons:

(i) It is probable that more Chinese exports would come to Hong Kong by rail were it not for the present constraints on the capacity of the British Section of the KCR;
(ii) Hong Kong's economy would benefit from an addition to existing, low-cost, fast, rail freight facilities; and
(iii) To transport more freight by rail would reduce the congestion which its carriage by sea and river causes at wharves and on the roads.

104 Accordingly, the Government's policy is to enable the KCR to carry as much freight as possible by expanding the freight handling capabilities of the railway.
Chapter Eight

THE ISLAND CORRIDOR

105 The 1976 report on the Comprehensive Transport Study pointed out that the Island Corridor, stretching from Chai Wan in the East to Kennedy Town in the West, represented one of the most complex and difficult transport situations in Hong Kong. The report went on to say that the mixtures and volumes of traffic moving in this corridor are such as to warrant immediate remedial action. But it added that the corridor also possessed characteristics that were suited to rail mass transit operations and that, in the longer term, every indication pointed to the need for an MTR Island Line if travelling conditions were to approach acceptable standards. The problem which presents itself is that crucial sections of the MTR Island Line could not be built until new waterfront roads are constructed east of Causeway Bay and west of Central District. The construction programme for these roads means that the MTR Island Line could not start operations until the late 1980s.

106 Faced with this situation, in 1977 the Government commissioned an Island Corridor Study on how to obtain early improvements in the transport situation along the corridor. This was a joint project by Government departments and the public transport operators, assisted by a firm of consultants. This study has now been completed and detailed studies on its implementation have been started.

107 The strategy recommended by the Island Corridor Study involves the phased development of a mass transit railway line along the Island Corridor, using Light Rail Vehicles (LRVs). This would mean moving step-by-step from the existing tramway towards a fully underground Island Line. The first phase would involve the purchase of new, modern, single-deck, articulated LRVs. LRVs have the characteristics both of a tram and of a train. At first, they would operate on-street along a track which was largely segregated to create a reserved right-of-way. The average journey speeds would be some 50% faster than the existing trams and they would be capable of carrying 50% more passengers—some 11,000 per hour in one direction.

108 The achievement of a segregated right of way is vital if the benefits of the proposed system are to be realised. This will need to be closely studied and the detailed studies of implementation will include the best means of getting passengers to the stops, by footbridges or subways. Segregation would, of course, result in less road space being available for other road users because they would no longer be able to drive on the tram tracks. However, the Island Corridor Study demonstrated that gains to the passengers using the Light Rail Transit system would outweigh this and that, overall, the users of the corridor would enjoy a substantial net benefit.

109 The second phase of the strategy could involve the construction of tunnels through Central District to provide a cross-platform interchange between the Light Rail Transit system and the MTR at Admiralty Station, and good transfer facilities at Chater/Pedder Stations. This connection of the LRT system with the MTR could, in effect, turn it into a pre-metro extension of the Modified Initial System and the Tsuen Wan Extension. Most of the construction of the two stations involved is being carried out now as part of the current MTR works and their early use would be an additional benefit of the strategy. A second short length of tunnel could also be built to provide an extension to Chai Wan where there could be a new depot. Further measures to improve track segregation could also be carried out during this second phase.

110 The final phase of the recommended strategy could involve conversion to a totally underground system along the alignment reserved for the Island Line of the MTR. The precise timing and cost of the recommended strategy will be determined from the results of the detailed implementation studies.

111 The recommended strategy for the Island Corridor also involves a substantial improvement in bus services, especially after the new waterfront roads are built, with express bus services to Central District along these roads and a fast service to the South of the Island through the Aberdeen tunnel. In addition, once the Light Rail Transit system is placed underground through Central District, the
former segregated track along Queensway and Des Voeux Road Central could be given over to buses, providing a fast, priority bus route to a new bus terminal on the present Central Market site.

112 The recommended strategy holds out the possibility of considerable improvement in public transport along the Island Corridor within a few years, while retaining the longer term possibility of constructing a full underground railway line. The pre-metro approach would permit improvements to be made in a logical and systematic manner, tailored to the growth in demand and travel conditions in the corridor.
Chapter Nine

FERRIES

113 Prior to the opening of the cross harbour tunnel in 1972, ferries and wallah-wallas provided the only transport link between Kowloon and Hong Kong Island. The cross harbour tunnel and, with it, tunnel bus services resulted in the marked increase in cross harbour vehicular movement and the marked reduction in the patronage of ferry passenger and vehicular services illustrated at Figures 5 and 6.

114 The services performed by the two major ferry companies—Hongkong & Yaumati Ferry Company (HYF) and the "Star" Ferry Company—and a handful of small operators may be divided into four types:

* outlying district;
* cross harbour passenger;
* vehicular; and
* coastal passenger.

Outlying District Services

115 Ferries provide an indispensable link between the urban area and outlying districts such as Cheung Chau, Peng Chau, Lamma and Tolo Harbour. There are normally no alternatives to ferries because,
in the majority of cases, tunnels or bridges, are impracticable. With an increasing emphasis in Hong Kong on leisure and recreation, the demand for ferries to provide an essential link between the islands and the urban area must continue to grow. Recent legislation on compulsory annual leave will give yet a further boost to a demand which is already rising.

116 At present, the outlying district services operated by HYF cover their attributable direct operating costs and contribute to overheads and profitability. The Government’s aim is to ensure the provision of basic services for people living in the outlying districts together with increased recreational services for others. Recreational demand rises sharply at week-ends and public holidays and, in trying to cope with it, the Company has much of its fleet under-utilised on weekdays. Due to the nature of recreational traffic, which is the mainstay of outlying district services, the Government proposes to permit suspension of certain cross harbour routes on week-ends and public holidays, thereby making additional ferries available for outlying districts. The Company charges differential fares so that the recreational traveller, responsible for peak demand, pays a premium above weekday fares. The HYF has developed a hybrid, triple-decked vessel capable of carrying vehicles across the harbour on weekdays but available for carrying passengers to outlying districts at week-ends and on public holidays. Moreover, as the MTR attracts passengers from the ferries, the Company proposes to sell some of its older vessels with a view to maintaining its viability.

Cross Harbour Passenger Services

117 The cross harbour tunnel bus services have presented a strong challenge to both ferry companies but have principally affected HYF and there will be further competition once the MIS cross harbour service opens in 1980. Whilst it is difficult to make such predictions, it is estimated, that, with the opening of the MIS and the Tsuen Wan Extension, the 1986 HYF and “Star” Ferry patronage will fall to below present levels. However, by 1991, such is the expected growth in the overall demand for public transport, that patronage of the two companies’ services should have revived. The Government intends to determine from its further detailed public transport planning studies, such as DIPTRANS referred to earlier in this White Paper, specific plans to retain, reshape, withdraw or increase cross harbour passenger ferry services as demand changes. The Government recognises that good feeder transport services to ferry piers are essential and intends that there should be no withdrawal of services to feed MTR at the expense of ferries. The Government also recognises that ferry piers should be within easy walking distance of passengers and proposes that land in the immediate vicinity of ferry piers should be zoned, wherever possible, for residential/commercial usage.

Vehicular Ferry Services

118 There have been signs, since 1973, of the demand for vehicular ferry services bottoming out following the sharp decline in demand due to the opening of the cross harbour tunnel. The decline had serious financial implications for the Company’s viability since vehicular ferry services make a major contribution to the Company’s profitability. Vehicular ferry services, in addition to a fixed crossing or crossings, are desirable as such services distribute traffic more widely over the road system than fixed crossings which tend to concentrate traffic. Accordingly, within the proposed Cross Harbour Study referred to earlier, the Government intends to investigate possible access roads and terminal facilities for additional vehicular ferry services.

Coastal Passenger Services

119 Low patronage on the coastal passenger service between Shau Kei Wan and Central District convinces both the HYF and the Government that similar services linking Central District to the southern parts of Hong Kong Island would not be popular. Construction of piers for such coastal services would, in any case, be very expensive. Moreover, coastal services create hazards by cutting across services linking Hong Kong with Kowloon and the New Territories. Accordingly, the Government does not intend to provide piers and attendant facilities for such services.

Ferry Terminals

120 Not all present ferry terminals have good interchange facilities with other transport modes. But whether it is an outlying district, a cross harbour or a vehicular ferry service, adequate terminals at appropriate locations are essential for efficient ferry operation. Earlier chapters of this White Paper have outlined the Government’s view that one of the future roles for buses must be to provide feeder services to the MTR and emphasis has been placed on the importance of good interchange facilities. For the same reason, attractive feeder services and good interchange facilities have been regarded as essential for ferries since they also place no demand on road space.
121 The proper design of terminals can add considerably to the operating efficiency of ferry companies and, by lowering costs, can result in improved viability. The time taken for ferries to moor at piers and to load and unload passengers adds to the operator’s costs and to the passenger’s reluctance to travel by ferry. The Government is therefore reviewing with the two major ferry companies its programme of improvements to existing piers and the construction of new ones. Bus and PLB terminals will be located at new ferry piers so that complementary services can be provided and ferries can make their full contribution to easing road congestion and providing an attractive service to the public.

122 The close involvement with the two ferry companies which the above courses of action will inevitably entail; the fact that, with the opening of the MTR, the demand for all ferry services will be in a transitional state; and the fact that the franchises for both companies are due for renewal with effect from 1st January 1980, have all led the Government to conclude that there should be a Ferry Services Ordinance similar to the Public Omnibus Services Ordinance. This will enable the Government to protect the interests of the public, to help the companies in the development of their long term plans and to ensure that these plans are integrated into overall Government transport policy.
Chapter Ten

BUSES

In 1978 the two franchised bus companies, the Kowloon Motor Bus Company (KMB) and the China Motor Bus Company Limited (CMB), had an average of 2.6 million and 0.7 million boardings a day, respectively. Total public transport boardings in 1978 (by bus, tram, ferry, KCR and PLB) were, on average, 5.6 million a day. Buses therefore carried over half of all public transport passengers, constituting the largest single transport carrier in Hong Kong. Predictions made within the Comprehensive Transport Study indicate that, over the years ahead, franchised buses will remain the largest single form of public transport. In 1991, for example, assuming that Hong Kong has the MTR described in Chapter 6, the improved KCR described in Chapter 7 and the possible Light Rail Transit system described in Chapter 8, franchised buses are predicted to have 4.0 million boardings a day, out of 8.5 million total public transport boardings.

Because of this continuing importance of franchised buses, the Public Omnibus Services Ordinance was enacted in 1975 with a view to providing greater Government control over, and involvement in, the activities of the two bus companies. Two Government directors have been appointed to each Board to represent the public interest and to facilitate good communications between the bus operators and the Government. Experience to date has indicated that this legislation is effective and has given the companies a confidence in their future which might otherwise have been lacking. The Government has, of course, been involved in the bus companies' operations for almost half a century as a consequence of its granting monopoly franchises to them; its responsibility to see that public transport operates safely; and its provision of terminal facilities, the location of which has a direct impact on bus services. But the 1975 Ordinance marked a deepening of the Government's commitment and has led to better maintenance of vehicles and firm ordering programmes for new buses. Government-to-Government discussions have been held on supplies of British buses, leading to improvements in deliveries. In general, passengers are now better served by franchised buses, in terms of frequency, comfort and reliability, than was the case in the past. However, there is no cause for complacency and there is still room for significant improvements in both the quality and quantity of the services provided by the two franchised bus companies.

Accordingly, plans are being developed by the Government and the bus companies to improve the overall level of service provided to the public.

Buses And The High Capacity Carriers

It is extremely important for passengers using transport modes other than buses, that complementary bus services are provided on the right routes at acceptable frequencies. For example, the attraction and viability of many ferry services are directly attributable to their being complemented by adequate bus services. In future, KCR and MTR services must be similarly served. Therefore, with a view to providing a fully integrated transport system, the Government has agreed with the bus companies that a major objective of their efforts should be directed towards providing services which link in with these new and improved transport modes which place minimal demands on road space. In this way the Government considers that an efficient overall public transport system will be developed to meet the needs of the majority of travellers, thus encouraging the selection of public rather than private transport and reducing road congestion. It is expected that, even with the full opening of the MTR and the Tsuen Wan Extension, other public transport modes, including buses, will in total carry at least as many passengers as at present. The availability of the mass transit carriers should, however, result in buses being less crowded than they are now. This will particularly apply to cross harbour buses, which are now among the most crowded.

A further objective of the adaptation of bus services to the existence of the mass transit carriers will be to extend the number of express (i.e. limited stop) bus services, particularly in the Island Corridor and in those urban corridors of Kowloon not served by the MTR. Bus services will also be provided within and between the new towns of Tsuen Wan, Sha Tin and Tuen Mun, thereby promoting their early development. It is essential to the success of these new towns that they have adequate facilities connecting them to each other and to the existing urban area. Public transport, and particularly buses, will provide an essential element in these facilities.
The Government considers that there is no danger of prejudicing the viability of the two franchised bus companies and will ensure that the plans which it is developing, jointly with them, to adapt their services to meet changing demands should permit them to earn the rates of return on capital which have been negotiated and agreed with them in their franchises. Reducing crowding on buses and improving the quality of service will naturally increase the cost of carrying any given number of passengers and could lead to higher fares. At present, and this has been the case for many years, Hong Kong’s bus fares are among the lowest in the world and the evidence from PLBs and from the bus companies’ coach services is that an important segment of the travelling public is willing to pay a premium for travelling in less crowded conditions.

The quality of a bus service has aspects other than overcrowding and, amongst these, waiting time at bus stops is very important. Under the plans which the Government and the bus companies will be developing, it is intended to reduce waiting times for franchised buses, particularly in the period following the introduction of the MTR.

Buses are Hong Kong’s single most important transport mode and will continue as such, despite the introduction of the MTR, a possible Light Rail Transit system and an improved KCR. It is therefore important that the companies should continue to purchase new buses and not wait and see what happens when the new, fixed-route, high-capacity modes come into operation. In the longer term, a continuing increase in demand for public transport is confidently predicted, so, despite the temporary respite due to the introduction of fixed-route, high-capacity carriers taking passengers from the buses, bus patronage is expected to grow over the years to 1991 and so must orders for new buses.

Lantau Bus Services

The present bus service on Lantau is comparatively small and likely to remain so despite the development of separate recreational and industrial areas on the island. Nevertheless, the Government considers that the services provided by the New Lantau Bus Company are of sufficient importance to warrant its enfranchisement under the Public Omnibus Services Ordinance and discussions on this subject have commenced between the Company and the Government.

Non-Franchised Buses

In 1978 about 360,000 passengers a day boarded 2,700 non-franchised buses. Such buses, which include private light buses, provide services to and from schools, factories, blocks of apartments and for tourists. Whilst the efficiency of such buses is low in relation to franchised buses, which carried 3.1 million passengers a day on 2,700 franchised buses in 1978, they are more efficient than motor cycles, private cars, hire cars and taxis. They perform a valuable service in relieving the pressure on public transport and in decreasing the number of private transport trips during peak hours and so the Government intends to continue to grant licences for these services.
Chapter Eleven

PUBLIC LIGHT BUSES

132 In 1969, the Government regularised an illegal minibus trade by creating the Public Light Bus (PLB) vehicle category. There are now 4,350 registered PLBs on which there are 1.5 million boardings a day. The most important reason for regularising the minibus was that it had achieved an indispensable position in the public transport system as a consequence of the disturbances in 1967 when large numbers of the bus companies’ employees went on strike, to the disruption of services. Minibuses filled the gap at that time and, even when the disturbances ended, it took the bus companies a long time to make up for their inability in 1967 either to maintain their vehicles or to order new ones.

The Existing Role of PLBs
133 Minibuses have proved very popular with the travelling public. They are not unique to Hong Kong, appearing in a similar form in a number of other countries. They have aroused such interest in urban transport circles that, in Canada and the U.K., demonstration minibus projects are being introduced with the objective of attracting car users back to public transport. The popularity of the Hong Kong PLB derives from its providing passengers with a means of avoiding bus queues, guaranteeing them a seat and approximating to the door-to-door convenience of the taxi at relatively low fares. In typhoon and other inclement weather, PLBs are often the only form of public transport available; and during special events, such as race meetings, they demonstrate an impressive flexibility to meet public demand.

134 The dilemma posed by PLBs is that, whilst they are popular with their patrons and acceptable in road use terms as a more economic substitute for cars and taxis, they are more extravagant road users than franchised buses and trams because of their smaller size and because of their mode of operation in picking up and putting down passengers at any point. They are profitable and the profit motive leads competing PLB drivers to indulge in inhumanity and a certain superficial and avaricious endeavour to pick up passengers. It is this method of operation which frequently results in PLBs congregating in unacceptable numbers at the kerbside and stopping in the middle of road junctions. Law enforcement to stop these practices has proved extremely onerous for the police. As PLBs are mainly operated by individual owners and drivers, it is difficult to regulate their method of operation and the trade is vulnerable to protection rackets. Under the law, PLBs have to be inspected annually but, judged by their appearance on the streets, more ad hoc inspections are required for both noise and smoke pollution and it is proposed to carry out more such checks in the future.

135 In February 1974, there was a two-day strike of PLB drivers on Hong Kong Island. Such of their passengers as continued to travel transferred to buses and trams which, due to the consequent reduction of traffic volume, were able to move faster and to cope without serious operational difficulty with the additional patronage. However, passengers travelled in excessively crowded conditions during these two days and, significantly, once the strike was over eventually reverted to PLBs. Nor could it be properly concluded that PLBs were the root cause of the congestion from which Hong Kong Island was relatively free during the two-day strike. Had any other transport mode (e.g. the taxi) which uses the roads to an extent comparable to the PLB been withdrawn from service, the remaining road users would have benefitted. All road users contribute to congestion to a greater or lesser extent, although, in so doing, some provide a greater transport service than others.

The Future of PLBs
136 PLBs seek out the corridors of maximum demand and generally, such corridors are congestion-prone. However, these are the very corridors where the Government has concluded that high capacity carriers should operate. This, in turn, means that, once a good alternative transport mode is introduced into such corridors, the PLBs operating there can be reduced without a significant reduction in the quality of public transport. But it would be wrong to ban them completely from corridors where high capacity carriers carry the bulk of passengers as PLBs provide a useful service for people who are prepared to pay and who would possibly opt for motor cycles, private cars, hire cars or taxis if they could not get a PLB.
A further use of the PLB is to serve routes away from the maximum demand corridors which may be inadequately served by other public transport operators, because of the relatively small number of potential passengers or because of the physical nature of the roads. A start has been made with the ‘maxicab’ routes already in operation for which selected PLBs are exclusively franchised. Very few operators own more than one or two PLBs and to promote this type of service it is necessary to encourage them to group together. This is not easy because of the individualism of the operators and the profitability of serving the main traffic corridors. However, the Transport Department has identified further routes which are suitable for franchised maxicab operation and operators will be invited to apply for allocation of these.

PLBs may not eventually be allowed to operate inside the new towns of Sha Tin and Tuen Mun, but the development of the market towns and the more remote New Territories villages will still provide opportunities for minibuses to pioneer new services which will be required for the proper development of these smaller communities. A Working Group has been set up to study PLB operations with a view to recommending their future role in the transport system.
Chapter Twelve

TRANSPORTING SCHOOL CHILDREN AND THE PHYSICALLY HANDICAPPED

School Children
139 The 1976 By-Census showed that 1.2 million children attended full-time schools. Of this number, 0.2 million were in kindergartens, 0.6 million in primary schools and 0.4 million in secondary schools. Most children attending kindergartens go to schools near their homes and the transport problem for school children mainly concerns those who attend primary and secondary schools. At present, parents' choice of schools is fairly unrestricted, so journey distances can be considerable. It is true that the Government's secondary school zoning system will begin to come into effect this year and, as this progressively affects more and more students, it will reduce journey distances with some benefit to the transport situation. But, as regards primary schools, whilst there is a planned provision to ensure that no child should have to travel more than 0.4 kilometres to school, parents are not prevented from sending their children to primary schools further from their homes, should they wish to do so.

140 The 1976 By-Census shows that motor cycles, private cars, hire cars and taxis were used by only 3% of children going to school; 63% walked and 34% went by bus, tram, PLB or ferry. School children make a total of about one million trips a day on buses, ferries, trams and PLBs but only 80,000 trips a day on motor cycles, private cars, hire cars or taxis. The former figure is significant when it is related to total daily public transport boardings in 1976 of about 5 million, but the school children using private transport are a tiny proportion of the total movement on private transport of about 2 million people a day. In these circumstances, the intention is to encourage the continuance of the status quo and to discourage the substitution of private for public transport.

141 Private transport to school for small children has the great advantage over other modes of safety, but this advantage can be largely matched by using school buses which provide almost door-to-door service. The Government's policy is therefore to encourage the further provision of school buses as substitutes for private transport.

The Physically Handicapped
142 The physically handicapped may be grouped into two categories, namely the ambulant and the wheelchair disabled. All wheelchair disabled are incapable of using public transport and the options open to them are confined to private cars, taxis, hire cars or specially provided bus services. Whilst some of the ambulant disabled are capable of using public transport, they usually encounter difficulties, especially in peak hours as buses and trams cannot cater for their needs. Failure to meet the transport needs of the physically handicapped, frequently results in unemployment, isolation and distress.

143 With the publication of the Report of the Working Group on Transport for the Disabled in 1975, measures to improve the situation have been taken, both by the Government and the voluntary agencies. They include:

(a) Liaison with public transport companies to provide special reserved seats for physically handicapped passengers with signs indicating their location.

(b) The provision at KCR's Hung Hom Station of special facilities for disabled passengers.

(c) The provision of early driving tests for disabled drivers.

(d) Talks and demonstrations to the staff of the public transport companies on meeting the needs of the physically handicapped.

(e) The establishment in 1975 (by the Joint Council of the Rehabilitation Division of the Hong Kong Council of Social Service) of a Committee on Access to promote transport and access for the disabled. This Committee has conducted various surveys, promoted the use of the 'Code of Building Practice on Access for the Disabled to Buildings' and has pioneered a minibus scheme for the severely disabled, aiming to provide a special service to and from work, school, or treatment centre for those disabled who find it either difficult or impossible to use public transport. This experimental project was carried out between February and December 1977 after which the scheme was evaluated. From May 1978 the Society for Rehabilitation has taken over responsibility for an expanded scheme.
In December 1977 the newly formed Rehabilitation Development Coordinating Committee set up a Sub-Committee on Access and Transport to examine the problems and seek to improve the situation further.

Adequate transport services for the disabled help their social rehabilitation by enabling them to move about as freely as their physical handicaps allow. Within the next few years, the following further measures need to be taken:

(a) expand the minibus scheme for the severely disabled;
(b) modify bus design e.g. by the provision of non-slip surfaces, special reserved seats for the disabled and handrails at entrances and exits;
(c) reserve special seats on any new light rail system;
(d) improve facilities on ferry piers at entrances, on ramps and on gangways;
(e) improve facilities at bus terminals and ferry piers by way of special reserved seats, queuing facilities and toilets; and
(f) improve access conditions for the disabled in existing and new facilities as recommended by the Code of Building Practice on Access for the Disabled to Buildings.
Chapter Thirteen

GOODS VEHICLES

145 The number of goods vehicles in Hong Kong increased from 15,000 in 1966 to almost 47,000 by the end of 1978. Goods vehicle registrations did not suffer the decline experienced by other vehicle registrations in 1974 and 1975 and this has resulted in their constituting 20% both of the 1978 vehicle fleet and of total road use. The CTS report, which assumed no additional restraint on goods vehicles (by contrast with the restraints which it recommended on private cars), predicted that goods vehicles would, by 1991, constitute 30% of total road use in terms of p.c.u. kilometres.

The Goods Vehicle Problem
146 Goods vehicles pose their own unique parking problems because:
(a) they are parked for a great deal of time in accessible places awaiting hire; and
(b) they frequently have to be loaded and unloaded at crowded kerbside locations.

147 Goods vehicles play a crucial economic role for which, other than in the case of rail-borne goods from China, there is no substitute and it may be argued that, whereas it would be reasonable to restrain the private car, which has public transport substitutes, it would be unreasonable to constrain the ownership or use of goods vehicles for which no substitutes are available. In line with this argument, the First Registration Tax on goods vehicles is only 15%, the diesel fuel which they consume is taxed at a preferential rate and their annual licence fees are relatively low, especially those for light goods vehicles (i.e. 2 tons unladen weight and under).

148 The encouragement which this preferential treatment has given to goods vehicles has meant that, even in the recession of 1974 and 1975, their registered numbers increased. Goods vehicles travel on the road for only a small proportion of the working day and, for a high proportion of the time when they are on the road, they carry less than a full load. Goods vehicles can no longer be treated as a privileged group if effective action is to be taken against road congestion. There are, however, distinct differences between the operational characteristics of heavy (over 2 tons unladen weight) and light goods vehicles. Light goods vehicles constitute about two-thirds of the total goods vehicle fleet and surveys conducted by the Government show that they make, on average, about three journeys per day compared to over nine daily journeys made by heavy goods vehicles. Moreover, on any given journey, only 10% of light goods vehicles operate fully loaded compared to 23% of heavy goods vehicles.

149 Table 3 indicates the trend in registrations of light and heavy goods vehicles since 1971 and shows that, even in the recession of 1974 and 1975, registrations of light goods vehicles continued to increase.

<table>
<thead>
<tr>
<th>Year</th>
<th>Light goods vehicles (up to and including 2 tons unladen weight)</th>
<th>Heavy goods vehicles (over 2 tons unladen weight)</th>
<th>Total goods vehicles</th>
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<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Index</td>
<td>Number</td>
</tr>
<tr>
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<td>16,933</td>
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<tr>
<td>1978</td>
<td>31,830</td>
<td>188</td>
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</tr>
</tbody>
</table>
Control of Goods Vehicles

150 On congestion grounds, a need can be foreseen to use fiscal means to slow down the growth in the number of goods vehicles. This should not have a harmful effect on the economy, provided that a constrained number of light goods vehicles still cope with the demand and did so more efficiently. Although the efficiency with which light goods vehicles are used must be increased on road congestion grounds, the Government has no reason for similarly viewing heavy goods vehicles, which form about one-third of the total goods vehicle fleet. Not only are such vehicles used more efficiently by their operators but, as with public passenger transport, bigger vehicles make more economic use of road space. One 20-foot container vehicle can carry as much as five, fully loaded, light goods vehicles.

151 The Government is also concerned about the pollution and safety aspects of goods vehicle operation and, as mentioned earlier, intends in 1979 to make goods vehicles subject to compulsory annual inspection comparable to the inspections currently carried out on franchised buses, PLBs and taxis. Furthermore, it is intended to increase on-the-road examinations for overloading (a prime cause of traffic accidents involving goods vehicles) and smoke emission.

152 Even with the reduced growth in goods vehicle registrations likely as a result of making light goods vehicles more expensive to operate, the Government considers that there is still a need to ban goods vehicle loading and unloading at certain times on major routes. It is considered that any hardship resulting from preventing daytime loading and unloading will be more than compensated by the benefits conferred on the majority of road users. Similarly, it is intended to impose further restrictions on goods vehicles using certain roads at certain times as is already the case on New Territories' roads.

153 As regards goods vehicles parking whilst awaiting hire, the Government intends to enforce existing regulations strictly and, in line with the arguments presented earlier, to restrict the availability of on-street lorry parking facilities. Enforcement of these parking, loading and unloading restrictions will be the responsibility of traffic wardens whose numbers will accordingly be increased. As Chapter 14 indicates, a detailed survey is being made in the new towns of the possibilities of establishing off-street parking facilities for goods vehicles.
Chapter Fourteen

MOTOR CYCLES, PRIVATE CARS,
CONTRACT HIRE CARS AND Taxis

154 As was indicated in Chapter 5, the Government considers that motor cycles, private cars, contract hire cars and taxis constitute the least efficient passenger carrying modes. This chapter indicates how the Government proposes to restrain the growth of these modes in the years ahead in order to avoid unacceptable levels of congestion.

Motor Cycles and Private Cars
155 Motor Cycles constitute about 10% of Hong Kong's total registered vehicle fleet and this means that some 2% of households have access to a motor cycle. They are almost as extravagant in their use of road space as private cars because of the gap which safety demands should be maintained in front, behind and at the sides of motor cycles in moving traffic. This means that they can be regarded in much the same light as private cars and what is said below about private cars has an equal application to motor cycles.

156 Private Cars, now numbering about 145,000, constitute 60% of Hong Kong's total vehicle fleet and their numbers, since 1961, have been growing at an average rate of 11% per annum. The phenomenon of a rapid growth in car ownership and attendant road congestion, as people switch from less to more congesting modes, is world-wide and Hong Kong is experiencing only what most other cities have suffered for years. But Hong Kong, with its severe geographical constraints, has to take the threat to mobility presented by the private car more seriously than most communities. At present, only 13% of all households own private cars although, together with motor cycles, hire cars and taxis, they account for 60% of all road use. In the absence of deliberate restraints, 22% of all households might be expected to own a private car or cars in 1991. The car population would then be nearly 400,000. On the other hand, it was estimated in the CTS report that if the restraints set out in that report were imposed, car registrations in 1991 would be 280,000 i.e. 15% of all households. The difference between these two sets of figures for car registrations gives a rough indication of what restraints of that degree of severity could be expected to achieve.

157 If unacceptable road congestion is to be avoided, the Government believes that some restraint on road use by motor cycles and private cars will be unavoidable. The Government has no wish to impose restraints before they are necessary, but will watch closely how traffic flow is maintained against a background of increasing registrations on the one hand and the development of new roads on the other.

Parking
158 Although Hong Kong's population has, by Asian standards, a high per capita income and although car ownership grew by an average of 11% per annum between 1961 and 1978, the percentage of families with access to private cars is relatively low. One reason for this is the lack of parking spaces in and around the high-rise developments where the population is housed and employed. This constitutes a natural restraint on vehicle ownership and use in Hong Kong and leads to the conclusion that, at locations threatened by unacceptable levels of road congestion, the supply of parking spaces and the charges for them are crucial in controlling road use by private cars. A Working Group has been formed to consider how best to reconcile the need for parking facilities with the need to avoid congestion on surrounding roads.

159 Off-street public open air car parking spaces represent a poor use of land and, as a consequence of the overall car parking policy, are being gradually phased out. On-street parking facilities will progressively be metered at flexible charges to meet local needs:

(i) where metered spaces would not hinder the free flow of traffic; and
(ii) where ignoring the demand for short term parking would cause excessive inconvenience.

160 As regards the parking of goods vehicles, there are at present too few off-street facilities, with the consequence that far too many lorries congregate on-street and create congestion. But off-street facilities for goods vehicles cannot readily be introduced into the existing urban areas due to the
difficulties of finding appropriate sites in locations which are acceptable to the trade and, in the case of multi-storey facilities, can be made to cover the very high cost of land and construction. However, in the new towns of Tuen Mun and Sha Tin and in other developing areas where land is more readily available, the Government is closely examining potential sites for off-street open-air and multi-storey goods vehicle parking facilities.

Taxis and Contract Hire Cars

161 Taxis and contract hire cars are considered alongside private transport because they offer personal services akin to those provided by private cars. Although they are more comfortable and flexible than public transport, they are also very extravagant users of road space. The demand for taxis has been stimulated by relatively low fares which, given general inflation, have steadily fallen in real terms; and this has, in recent years, led to a shortage of taxis at prevailing meter charges. Moreover, the constraint on the numbers of taxis and contract hire cars has led to the emergence of illegal taxis and hire cars (pak pais). It is estimated that there are at least 1,000 pak pais now operating in the Territory, about 7,000 urban taxis and about 750 New Territories taxis. The latter bear a distinctive livery and are restricted to operate outside the urban area and Sha Tin and Tsuen Wan.

162 Taxis are more extravagant in the road space which they use to achieve a given volume of passenger movement than are buses, trams or PLBs. Moreover, profitable operation requires them to congregate in areas of high demand such as Central District, Tsim Sha Tsui and Mong Kok which are among the most congested districts in Hong Kong. Furthermore, taxis are empty for much of their operating time while they seek passengers and, during these periods, they add to road congestion without contributing anything to passenger movement. For these three reasons, there must be some limit to the number of taxis allowed to operate in the urban area if mobility is to be maintained. Indeed, to limit the number of private cars would, in fact, add to road congestion if those denied the use of cars switched to an unlimited supply of taxis.

163 In the past, taxi fares have seriously lagged behind the growth in incomes with the result that demand, at these fares, has risen continuously and, particularly, since the recovery of the economy in 1975. In the course of 1975, as the demand for taxis in relation to their supply became more pronounced, there was increasing evidence of malpractices by taxi drivers in seeking to choose more lucrative fares e.g. shorter journeys, less congested routes and destinations where a return fare was likely to be available. This was followed by evidence that drivers were bargaining for fares above the legitimate meter charge.

164 New taxi licences are continuing to be issued but it has been necessary, in the interests of eliminating malpractices and containing road congestion, to limit the demand for taxis by increasing fares. This will make it easier for those who are prepared to pay to obtain a taxi and it should also help to improve the standards of behaviour of the taxi trade. At the same time, stiffer penalties for malpractices have been introduced.

165 Legislation was introduced in 1977 to provide for a new class of contract hire permit. Contract hire permits run concurrently with vehicle licences and are to be issued in respect of private cars which are certified mechanically sound and are fully insured against third party risks. The fees for such permits are currently set at $500 per annum or $175 for four months. The permit must be displayed inside the car in such a way that it is not visible from outside and the contract hire car must have no distinctive markings which would enable it to be confused with a taxi. This will discourage contract hire cars from plying for hire as taxis and members of the public from mistakenly hiring them as such. Contract hire cars will look as similar to private cars as possible, exceptions being authorised by the Commissioner for Transport e.g. in the case of hotel contract hire cars, whose markings would clearly indicate that the vehicle was not a taxi.

166 The major object of this proposal is to eliminate pak pai operations, with their attendant corruption and criminality and the issue of permits will be closely monitored to ensure that this is the case.

Sanctions Against Illegal Taxis or Contract Hire Cars

167 Steps have already been taken to eliminate the practice of painting private cars to look like taxis, it now being illegal for any vehicle other than a taxi to display a red and silver livery. The Government proposes to introduce stringent sanctions against those who:

a) use private cars, or allow them to be used, illegally to ply for hire as taxis; and
b) operate them, or allow them to be operated as contract hire cars without appropriate permits.
The proposed sanctions are that a vehicle unlawfully used in either of these ways may be impounded and its licence suspended following a court conviction. The proposed periods of suspension of the licence will be three months for a first offence and six months for any subsequent offences. These sanctions have already been approved by the Governor in Council, but the Government does not intend to implement them until existing pak pa operators have had sufficient opportunity to opt for contract hire permits. Once this stage has been reached, approval will be sought for the sanctions to be implemented.
Appendix A

GLOSSARY OF TERMS

Model. A mathematical process used to predict relationships between people's characteristics e.g.: income, home location, family size, and their travel habits e.g.: choice of mode, distance travelled.

Ratio of traffic volumes to road capacity. A road's capacity is the number of vehicles which can travel along it. Vehicles of different types require different amounts of road space because of variations in size and performance. In order to allow for this in capacity measurements, traffic volumes are expressed in passenger car units (p.c.u.'s). The basic unit is the car and all other vehicles are related to it, dependent on their size and performance. The volume of traffic is the number of vehicles actually travelling along the road. It is also usually expressed in p.c.u.'s. The ratio of volume to capacity is 1.0 when both are equal and 0.5 when the road is carrying one half of its capacity.

Daily boardings. The number of fare-paying passengers who travel on a transport mode, such as the Mass Transit Railway, during the course of a day.

Light Rail Transit system. A mode of transport utilising a predominantly reserved right-of-way with electrically powered rail vehicles operating singly or in two-car or four-car trains.

Reserved right-of-way. Part of the carriageway which is designated for the exclusive use of a particular mode by means of painted marks or kerbs. Its use is normally confined to public transport e.g.: buses or mass transit light rail vehicles.

Traffic accident casualties. People injured (slightly, seriously or fatally) as a result of traffic accidents.

p.c.u. kilometres. A measurement of road use, representing the product of the distance travelled by a particular transport mode and its p.c.u. value.
# Appendix B

## PROJECTS IN THE CURRENT FIVE YEAR ROAD PROGRAMME
(as at April 1979)

### HONG KONG

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45
## Kowloon

**Brief Title**

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**Total estimated commitment in the 5-year period commencing 1979/80**

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46
New Territories Continued

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Hong Kong: Government Secretariat.
Keeping Hong Kong moving: the white paper on 1979.

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