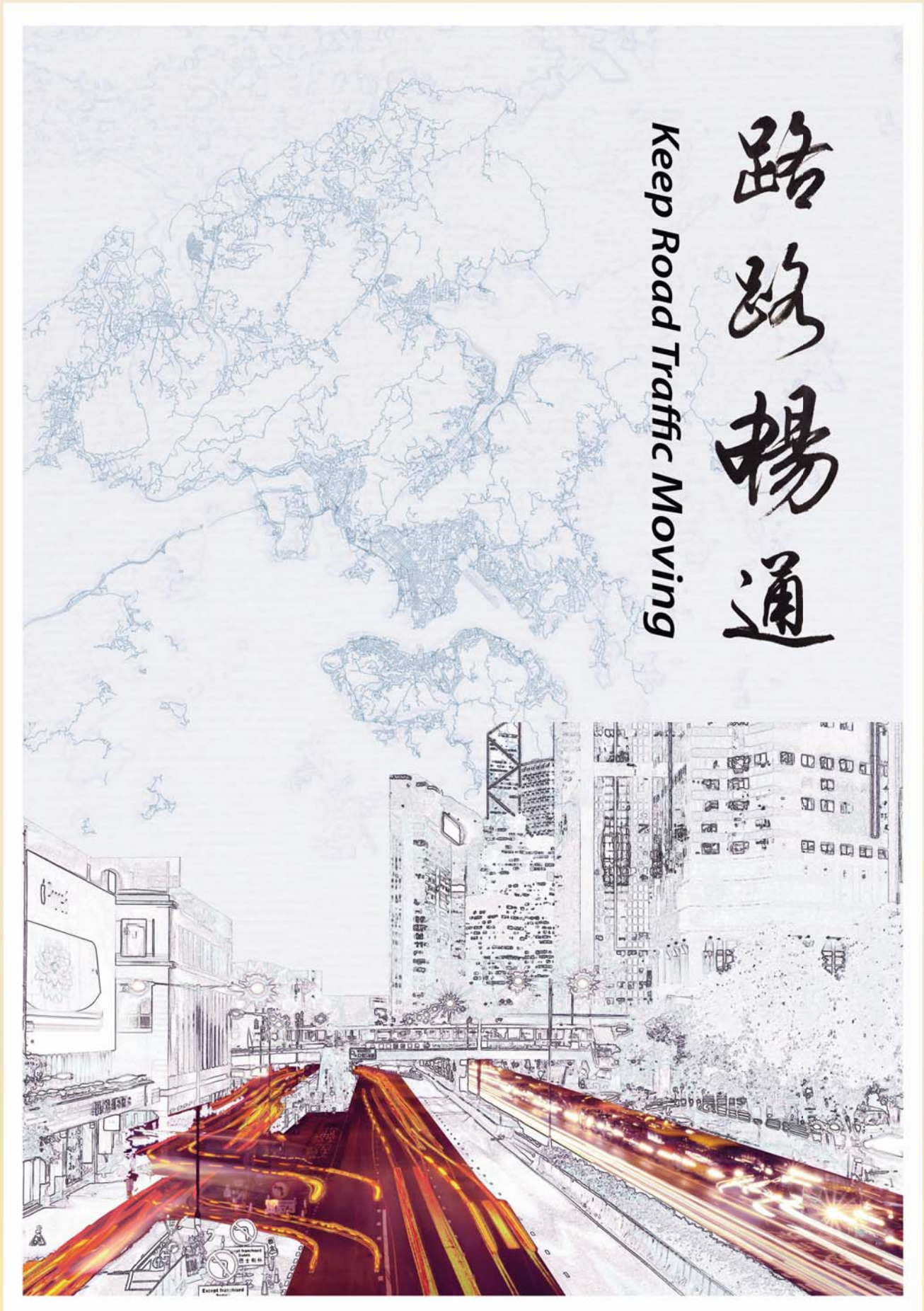


Report on Study of Road Traffic Congestion in Hong Kong



Transport Advisory Committee
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The Vision . . .



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Executive Summary

INTRODUCTION

Hong Kong takes pride in its efficiency. We aspire to have a highly efficient road network to align with the city pace. Nonetheless, long queues of slow moving traffic have increasingly become a more common scene in our city.

2. Roads serve the important function of carrying people and goods around the city, which are like blood vessels circulating nutrients to feed our body. If we do nothing to contain congestion, it will continue to erode the environment, sustainability, quality of life and competitiveness of our city. Immediate action is warranted.

THE STUDY

I. Background

3. In March 2014, the Transport Advisory Committee (“TAC”) accepted the invitation of the Secretary for Transport and Housing to conduct a study to –

- (a) identify various factors contributing to overall road traffic congestion in Hong Kong;
- (b) suggest short and medium-term measures at territorial level to contain road traffic congestion which are practicable and can be implemented within a reasonable period of time; and
- (c) flag up long-term measures at territorial level for further study by the Government.

The study report will be sent to the Secretary for Transport and Housing for consideration in December 2014.

4. A Working Group on Road Traffic Congestion (“Working Group”) was subsequently set up in April 2014 under the TAC to take forward the task. This is the Working Group’s report. It was fully endorsed by the TAC and is to be sent by the TAC to the Secretary for Transport and Housing for consideration.

II. Findings

Causes of road traffic congestion

5. The Working Group reckons that, broadly speaking, there are five categories of recurrent causes¹ of road traffic congestion –

- (a) limited scope for more road transport infrastructure;
- (b) excessive number of vehicles;
- (c) competing use of road space;
- (d) management and enforcement issues; and
- (e) road works.

(a) Limited scope for more road transport infrastructure

6. The physical and spatial constraints imposed by intensifying urban development in Hong Kong, as well as the diversified views from the public on visual impact considerations, environment concerns, and impact on existing traffic resulted from construction of new roads and highways, etc. render it rather difficult to build new roads. The growth rate of total length of public roads in Hong Kong is expected to slow down to around 0.4% p.a. up to 2020. Such growth rate clearly cannot keep up with the current growth of vehicle fleet (about 3.4% p.a.). Indeed, building more road transport infrastructure alone cannot resolve traffic congestion — it may actually induce more demand for vehicle usage and fuel vehicular growth.

¹ There are non-recurrent causes which do not occur on a regular basis in terms of location and timing. They include major planned events which occupy road space and/or generate additional traffic (e.g. public processions, major festive and sports events such as marathon), unplanned incidents (e.g. traffic accidents, vehicle breakdowns, burst of water mains) and inclement weather. Non-recurrent causes are not the focus of this Study.

(b) Excessive number of vehicles

7. The number of total licensed vehicles grew by about 30% from about 524 000 in 2003 to about 681 000 in 2013, with an annual growth rate of 3.4% in recent years. The larger the vehicle fleet size, the slower the car journey speed in the urban areas.

8. According to the findings of public opinion survey (“POS”) commissioned by the Working Group (detailed findings at **Annex 1C**), the general public and drivers consider that too many vehicles on the road is one of the major causes of road traffic congestion.

(c) Competing use of road space

9. Apart from the excessive number of vehicles running on roads, obstruction of traffic in local areas is commonly caused by various activities competing for use of road space. Examples are –

- (a) loading/ unloading activities of goods vehicles;
- (b) picking up/ setting down activities of buses, public light buses, coaches, taxis and private cars (“PCs”); and
- (c) vehicles circulating on roads looking for on-street parking spaces.

10. The Working Group notes that there is a genuine need for the above activities, especially in fully developed areas where the provision of off-street loading/ unloading and picking up/ setting down facilities is limited. However, these activities would cause obstruction to local traffic, resulting in traffic queues upstream and affecting the operation of critical road junctions and busy roads. For example, tourist coach activities (such as prolonged waiting and illegal parking) along Chatham Road South and Salisbury Road in Tsim Sha Tsui are rampant during peak tourist visiting hours. These activities affect the smooth flow of the general traffic.

(d) Management and enforcement issues

11. The Working Group notes that while the Government has implemented a host of traffic management measures to enhance the efficiency of available road space (as elaborated in **Chapter 3**), the effectiveness of such measures hinges on

the cooperation of, and compliance by, road users as well as complementary effective enforcement.

12. Although there was an increase of about 98% in the number of fixed penalty tickets issued for congestion-related offences over the past 10 years, there is a general perception in the community that enforcement against congestion related offences is not stringent enough. The Working Group notes that with limited manpower resources and competing priorities, it may be difficult for the Hong Kong Police Force (“the Police”) to accord relatively high priority on enforcement against congestion related offences.

13. More importantly, the level of fixed penalty against congestion-related offences, which has not been raised since 1994, has lost its deterrent effect over time due to inflation and increase in income level. It should be noted that from 1994 to 2013, the Composite Consumer Price Index (“CCPI”) increased by 40%.

(e) Road works

14. The Working Group notes that road works are considered by the public and drivers as another major cause of road traffic congestion. The Working Group recognises that road works are essential to the proper maintenance of roads, public utilities and infrastructure projects. As such, better co-ordination among different road works in the vicinity is the key to minimise disruption caused to road users. In this regard, the Working Group notes that the Government has put in place an excavation permit system to manage road works. Details of the system are elaborated in **Annex 3**.

Consequences of road traffic congestion

15. Increased travel time is the most direct consequence of road traffic congestion. But it is not the only cost. Congestion incurs both tangible and intangible costs to individual road users as well as our society. For example, apart from time wasted when people are caught in congestion, the low mobility adversely affects the business sectors. When goods or services cannot be delivered on time, the business sectors need to incur additional inventory costs and logistics costs.

16. Long traffic queue in congestion worsens roadside air quality, which not only exacerbates the threat to public health, but also affects the quality of life and the image of Hong Kong as a world-class metropolis. This will undermine Hong Kong's attractiveness for overseas companies to establish regional headquarters/ branch offices in Hong Kong. The passage of emergency vehicles interfered by slow-moving traffic also results in delays in responding to incidents.

17. Details of the causes of road traffic congestion and its consequences are set out in **Chapter 2**.

Government's on-going efforts

18. The Working Group notes that the Government has been endeavouring to maintain the mobility of Hong Kong by adopting a three-pronged transport policy, which comprises –

- (a) improving transport infrastructure;
- (b) expanding and improving public transport (“PT”) system; and
- (c) managing road use.

19. In particular, the Working Group notes that under the prong of improving transport infrastructure, the Government has put in place measures to promote non-mechanised means to commute, e.g. through building hillside escalators and improving pedestrian facilities to enhance walkability and connectivity.

20. Details of the host of on-going measures implemented by the Government under the above policy are set out in **Chapter 3**. The Working Group recognises the Government's efforts in this regard and notes that the Government would continue to pursue these on-going measures, review their effectiveness and explore further improvements. Nonetheless, due to physical, environmental and social constraints, the effectiveness of the on-going measures is constrained. The focus of the Study is therefore to identify additional measures which can work in conjunction with these on-going measures.

III. Recommendations

Urgency and benefits of tackling road traffic congestion

21. The Working Group sees an urgent need to tackle road traffic congestion. Hong Kong's vehicle fleet size has been growing at an alarming rate. Over the past ten years, the number of vehicles increased by 30% from 524 000 in 2003 to 681 000 in 2013. During the same period, the average car journey speed in urban areas dropped by about 11% from 25.6 km/h in 2003 to 22.7 km/h in 2013.

22. In particular, the car journey speeds on some major traffic corridors, such as Des Voeux Road West, during weekday morning peak hours are recorded to be around or even lower than 10km/h, which are not much faster than the average walking speed of an adult at 4 to 5 km/h.

23. Apart from the slow-moving traffic, congestion also worsens our quality of living. It has become increasingly difficult for road users to plan their itineraries. From the environment point of view, more vehicles on the road mean more road-side emission and more noise pollution, causing health concerns. Motor vehicles are the main source of air pollutants at street level and the second largest source of greenhouse gas emissions in Hong Kong. More vehicles on the road means more emission of air pollutants such as respirable suspended particulates and nitrogen dioxide ("NO₂"). The Working Group notes that the levels of respirable suspended particulates and NO₂ at the roadside in Hong Kong have remained high over the years. In particular, NO₂ levels at roadside increased by 9% from 2009 to 2013, resulting in an increase in the number of days with the roadside air pollution index reaching the "very high" level (i.e. index exceeding 100) in recent years.

24. The Working Group's sense of urgency to tackle traffic congestion is shared by many road users. According to the POS result, about 70% of both the public and drivers agree that there was a need to control the growth of PCs.

25. The benefits of an improved traffic condition may be difficult to accurately quantify, but can easily be felt by all road users. It would mean less travel time for both passengers and motorists and greater mobility. With less time spent on the road, every road user, regardless of their age, social status and

occupation, would have greater flexibility to plan their itineraries and pursue their interests. Tackling congestion would therefore help to facilitate work-life balance.

26. To give some rough estimates on the benefits of improved traffic condition: if we do nothing now, with an assumption that the current PC growth rate of about 4.5% p.a. is to continue, it is estimated that the average journey speed in urban areas would be decreased by about 15% in 10 years' time, with the amount of greenhouse gases generated increased by more than 20%. If our city is able to slow down the PC growth rate from about 4.5% p.a. to, say 1.5% p.a., both the estimated reduction in average journey speed in urban areas and the estimated increase in greenhouse gases caused by vehicle growth can be lessened by about one-half. With less congestion and fewer cars on the road, our environment could be improved. For the logistics industry, there will be savings in operating costs (such as fuel costs), as less time is required to deliver goods and services. Besides, managing car growth could, to a certain extent, address the issue of inadequate parking space.

27. The Working Group considers that Hong Kong cannot afford to sit still and let congestion erode the sustainability and competitiveness of our city. It is necessary to take immediate actions to contain road traffic congestion.

Measures recommended

28. The recommendations given by the Working Group are intended to be additional measures which can work in conjunction with the Government's on-going measures to tackle congestion. In putting forward the recommendations, the Working Group has taken into account the following factors –

- (a) whether the proposed measures are proven or anticipated to be effective in containing congestion at a territorial level;
- (b) whether the proposed measures are acceptable to the public at large; and
- (c) how the proposed measures would affect the relevant stakeholders.

Short and medium-term measures

A. *Managing the PC fleet size*

(a) *Raise PC's First Registration Tax and Annual Licence Fee*

29. The Working Group reckons that there is a need to manage the growth of the vehicle fleet to ease congestion, and considers that a more targeted approach in curbing growth of PCs should be adopted on the following grounds –

- (a) PCs have been a major contributor to the overall vehicle growth. From 2003 to 2013, the total number of PCs increased by 40% whilst the growth of other types of vehicles was relatively modest. As of September 2014, the growth rate of the PC fleet stood at an alarming 4.6% p.a.;
- (b) PC is a much less efficient passenger carrier. PCs account for about 40% to 70% of the total traffic flow on most of the major roads², but only carry 16% of the total daily road-based passenger boardings. On the other hand, PT carriers such as buses and light buses carry about 71% of the total daily road-based passenger boardings and only take up about 5% to 25% of the total traffic flow on these major roads; and
- (c) PCs are mainly for private use and are not indispensable in most circumstances, given Hong Kong's generally affordable and well-developed PT system. By contrast, goods vehicles and PT play a more important role in moving goods and people in our community.

The POS results also revealed that over 60% of the general public and over 70% of drivers consider that PCs should not be given priority to use the roads.

² The figures are based on data from 20 major roads during morning peak hours in 2013.

30. Based on past experiences, increases in First Registration Tax³ (“FRT”) and Annual Licence Fee⁴ (“ALF”) are direct and effective means to curb PC growth. In 2011 the FRT was increased by about 15%. However, as there was a concurrent increase in concession for newly registered Environment-friendly Petrol Private Cars (“EFPPCs”) from 30% (with a cap at \$50,000 per car) to 45% (with a cap at \$75,000 per car), the effect in containing PC growth was greatly eroded. The current growth rate of PC still stands at a very high level of about 4.5% p.a.

31. Facing a much larger PC fleet size as compared to 2011, and in order to achieve a significant reduction of the growth of PCs and for a more lasting impact, the Working Group considers that there may be a need to impose an FRT increase higher than that of 2011. Such increase should be equally applicable to EFPPCs. Apart from FRT, the Working Group notes that ALF has not been adjusted for over 20 years and recommends the Government to consider its increase by taking into consideration at least the inflation during the period.

(b) Tighten up standards for EFPPCs

32. EFPPCs refer to petrol PCs with lower emissions and higher fuel efficiency. Currently, FRT concession is granted to encourage vehicle buyers to purchase EFPPCs as compared to ordinary petrol PCs, should they find car purchase necessary. The Working Group considers that from a congestion control point of view, an EFPPC is no different from an ordinary PC in that an EFPPC also occupies road space. Further, EFPPCs, which are not with zero emission, still contribute to roadside air pollution. The Working Group thus recommends the Government to continue to tighten up the qualifying standard for EFPPCs and avoid raising the FRT concession further. There may even be a

³ FRT is a tax payable upon the first registration of a motor vehicle, including new and imported second-hand ones. An increase in FRT will discourage the acquisition of PCs. Currently, the FRT for a PC ranges from 40% to 115%, and it is linked to and varies with the incremental taxable value of a PC in four bands.

⁴ ALF is a tax-loaded fee payable on an annual basis for licensing a motor vehicle in order that it could be driven on roads in Hong Kong. An increase in ALF will add cost to owning an existing one. Currently, ALF for a PC ranges from \$3,815 to \$11,215 depending on the engine capacity. A “fuel levy” of \$1,460 is also added to ALF for diesel PCs.

case to abolish the EFPPC scheme and make FRT concession only available to electric vehicles⁵, which have zero emissions.

(c) Raise “fuel levy” for diesel PCs

33. In 1982, the fuel tax on petrol was increased by \$0.7 per litre, but there was no corresponding increase of fuel tax on diesel after due consideration of the operation costs of PT. Noting that diesel PCs would inadvertently be benefitted from such a fuel tax arrangement, \$1,000 was added to the ALF for diesel PCs in the form of a “fuel levy” to “neutralise” the fuel tax gain. The amount of “fuel levy” was subsequently adjusted in tandem with the increases in ALF from 1987 to 1991. Since 2008, the fuel tax for Euro V diesel has been reduced to zero to facilitate the commercial vehicle trade and to encourage them to use cleaner fuel.

34. Given that diesel is tax free while the fuel tax for petrol is currently set at \$6.06 per litre, a PC owner could achieve cost savings in fuel if he/ she opts to use a diesel PC instead of a petrol one. The Working Group is mindful that any proposed increase in ALF will be offset by recurrent fuel savings if motorists opt to use diesel PCs, thus diluting, if not nullifying, the desired effect to manage PC growth. As such, the Working Group recommends that the diesel “fuel levy” should be revised upwards to offset the possible fuel savings.

B. Efficient use of limited road space

35. Apart from reducing demand on the limited road space by curbing vehicle growth, the Working Group considers it equally important to maximise the efficiency of available road space. The following two measures are proposed for this purpose.

(d) Start planning for a congestion charging pilot scheme

36. A congestion charging (or Electronic Road Pricing (“ERP”)) scheme is a traffic management tool aiming at reducing congestion at a designated area by adopting the “user pays principle”, i.e. charging motorists for entering the designated area at busy times of the day and encouraging travellers to switch to

⁵ Electric vehicles are currently exempted from paying FRT until 31 March 2017.

PT or change their routes. The Working Group considers it a very effective way to tackle congestion in a particularly congested area.

37. The Government has earlier indicated that with the targeted commissioning of the Central - Wan Chai Bypass and Island Eastern Corridor Link (“CWB”), motorists whose destination is not Central District will be provided with an alternative route to bypass charged areas. The Government would then be in a better position to consider the possibility of ERP application in Central District. Given the importance of Central District as our central business district and its road traffic situation, the Working Group agrees that with the commissioning of the CWB, the Central District should be a suitable location for an ERP pilot scheme.

38. The Working Group notes that the concept of ERP remains a novel one for many road users in Hong Kong and there is not yet a consensus over its use. The Government should therefore engage the public as soon as possible for the planning of an ERP scheme, recognising that it would take longer time to the conduct detailed planning for the implementation of the scheme.

(e) Increase meter parking charges

39. Currently, there are some 18 200 on-street metered parking spaces in Hong Kong; these are intended for short-term parking only. The maximum fee for metered parking is \$2 per 15 minutes (equivalent to \$8 per hour)⁶. Because of the convenience of meter parking and its low level of charge compared to nearby commercial car parks, it is common for vehicles circulating/ double parking on roads in busy areas to look or wait for on-street parking. Such activities cause obstructions to normal traffic flow.

40. The Working Group notes that the metered parking fee has remained the same for the past 20 years while the CCPI has increased by about 40% during the same period. The Working Group thus considers that there is a case to raise on-street metered parking charges, in order to discourage motorists from

⁶ While the statutory ceiling of parking fees is \$2 per 15 minutes, the fees for parking meters are determined having regard to a host of factors including the parking demand, the location and public sentiments. For example, for parking spaces in more remote locations or with lower utilisation, a lower fee (such as \$2 per 30 minutes) will be charged.

circulating/ double parking on roads waiting for metered parking spaces. This will have the added benefit of discouraging long-term parking.

C. Stringent penalty and enforcement of traffic offences

41. While the Working Group appreciates that Police manpower has been deployed for other more pressing commitments in response to the changing needs of the community (such as crowd control and management of the increasing public meetings and public possessions), it is important that congestion-related offences are effectively enforced. The Working Group recommends adopting the following four measures to step up enforcement –

- (a) enhance publicity and education efforts to promote compliance with traffic rules and regulations*

The Working Group considers that a more fundamental way to bring about law-abiding behaviour of road users is through continuous education and publicity. The Government is thus recommended to step up its publicity and education efforts.

- (b) raise the fixed penalty charges for congestion-related offences to restore the deterrent effect*

The current fixed penalty charges are set at \$320 or \$450 for congestion-related offences, such as illegal parking⁷. Such levels have not been adjusted since 1994 while the CCPI increased by about 40% from 1994 to 2013. The deterrent effects of fixed penalty charges have no doubt been gradually eroded over time due to inflation and the increase in income level. The Working Group thus considers that the Government should raise the fixed penalty charges by at least 40%.

⁷ Congestion-related offences include illegal parking, loading/ unloading goods or picking up/setting down passengers in restricted zones, etc. These offences are set out under the Fixed Penalty (Traffic Contraventions) Ordinance (Cap. 237) and the Fixed Penalty (Criminal Proceedings) Ordinance (Cap. 240).

- (c) *adopt a stricter approach and deploy more resources to enforce congestion-related offences by the Police*

Despite the constraints in manpower and resources, the Working Group urges the Police to consider how enforcement against congestion-related offences could be further strengthened. In some particularly congested areas, the Police should take enforcement action which has greater deterrent effect. For example, where appropriate, consideration could be given to issue fixed penalty ticket without any prior warning. The Working Group also notes that the serving number of traffic wardens may sometimes fall short of the establishment because of the lapse between recruitment cycles. Action has been taken by the Police to shorten the duration between the recruitment cycles so as to maintain the traffic warden cadre at its full strength as far as possible. The Working Group considers that the possibility of expanding the establishment of the traffic wardens should also be explored.

- (d) *make further use of information technology in enforcement*

Mindful of the limit on how much additional manpower resources the Police could allocate to enforce against road traffic congestion, the Working Group sees a need to make more use of information technology to streamline the enforcement process. The Police is conducting a trial scheme to issue fixed penalty tickets through an e-ticketing system and the Working Group considers it a move in the right direction. The Working Group considers that the Government could engage the information technology sector or tertiary institutions to explore and develop the use of technology for enforcement purpose, having regard to local circumstances.

42. The Working Group recognises that most of the short and medium-term recommended measures entail financial consequences. These measures are considered necessary in view of the worsening traffic congestion. The other alternatives explored are not as direct and effective in containing car growth and ensuring efficient use of road space. The Working Group opines that the Government must strengthen education and publicity efforts to complement these

measures. The Working Group also proposes a number of long-term measures for the Government to study further.

Long-term measures

(a) Review parking policy and disseminate real-time information on parking vacancies

43. Provision of parking spaces is essential to those who need to drive as well as to the operation of commercial transport operators. The Working Group is mindful that a careful balance should be struck in its provision. Letting the pendulum swing to either side is not desirable – over-provision will attract more use of PCs, while under-provision may aggravate illegal parking, causing further obstruction to traffic and straining enforcement resources.

44. It is therefore important to find out the optimum level of parking provision to restrain car growth without bringing too many adverse consequences. The Working Group considers that the Government should conduct a review of the parking policy, in which various stakeholders and the general public should be fully engaged. Meanwhile, the Government should examine how to solicit the support of operators of commercial off-street car parks to make available information on parking vacancies so that motorists do not need to circulate on roads in nearby areas looking for available parking spaces which may aggravate congestion.

(b) Encourage on-street loading and unloading outside peak hours

45. The Working Group recognises the genuine need for on-street loading and unloading of goods for business in a densely developed city like Hong Kong. Yet, prolonged or illegal loading and unloading activities will obstruct traffic flow.

46. The Working Group thus considers that the Government should, as a long-term measure, examine how to encourage and facilitate local businesses to carry out more on-street loading and unloading outside peak hours to minimise the impact of these activities on road traffic. Such arrangement can be factored in as one of the features of an ERP pilot scheme by, for example, having differential charging for peak and non-peak hours delivery within a charged zone.

(c) Provide more park-and-ride facilities

47. Park-and-ride (“PnR”) car parks allow motorists to drop off their cars at transport hubs to switch to PT. These car parks are usually located at the suburbs or fringe of city centres, with the aim of reducing the amount of traffic entering the most congested parts of the city. The Working Group notes that there are already 11 PnR car parks in Hong Kong (but not all of them are well-utilised), and that most of the respondents of the POS support the provision of PnR car parks as a means to reduce traffic flow in congested areas.

48. While the Working Group appreciates the physical constraints in finding suitable locations at the fringe of congested areas to provide for more PnR car parks, it would like to urge the Government to explore every possibility to do so, particularly in future railway projects, as well as urban redevelopment and new development projects. The Government should also examine how to enhance the patronage of these car parks.

49. PnR facilities may also be provided to cyclists in new towns and new development areas (“NDAs”) for them to connect to PT. The Working Group notes the Government has been providing bicycle parking spaces near public transport interchanges (“PTIs”) and Mass Transit Railway (“MTR”) stations in new towns and NDAs. The Working Group recommends the Government to continue to strengthen its efforts on this front where feasible.

Other measures

50. Apart from the above short, medium and long-term measures, the Working Group has examined a number of other measures, most of which are related to the provision of PT services and improvements to the traffic conditions at road harbour crossings. They are not detailed in this report because the Working Group notes that these issues require in-depth studies and hence fall outside the scope of this study which is of limited duration. The Working Group also notes that the Government has already undertaken to conduct the necessary studies, such as commencing the Public Transport Strategy Study to examine various aspects of our PT system.

51. The Working Group has also considered a number of other measures, such as a vehicle quota bidding system, but considers that these more draconian measures, though somehow effective in other cities, may not be suitable for introduction into Hong Kong at this stage. That said, the Working Group wishes to point out that should our city's traffic condition continue to deteriorate after the Government has implemented the recommended additional measures, the Government may need to revisit some of these more drastic options at a later stage. Given the controversy involved, the Government should fully engage relevant stakeholders and the public throughout the process.

IV. A Joint Effort

52. The Working Group believes that it takes concerted effort of the community to tackle a challenging issue such as road traffic congestion. Everyone in our society, be it individual road users, property owners and business operators, members of the Legislative Council and District Councils can work with the Government to help ease road traffic congestion.

53. To bring the community together in pursuing the goal of easing congestion, the Working Group considers it essential to put in place effective publicity and education programmes to drive home two key messages –

- (a) *Joint effort*: it takes everyone to work together in tackling congestion; and
- (b) *Inconvenience is for a worthwhile cause*: some of the proposed measures to ease congestion may entail inconvenience and even financial consequences to certain quarters of the community, but it is worthwhile for the benefit of the whole community.

54. The Working Group would also like to underline the importance and usefulness of educating the younger generation. The road safety slogan many of us learnt in our youth – “Don't run but always watch before you walk 'cause the road is dangerous as a tiger's mouth” (「慢慢走，勿亂跑，馬路如虎口。」) still strikes a chord nowadays. The effects of education and publicity may not be immediate, but they will be lasting. Details of a joint effort are elaborated in **Chapter 5**.

CONCLUSION

55. Hong Kong, being a world-class city, has been striving to maintain and enhance our competitiveness. Mobility and air quality are two important, and related, attributes in defining the livability and attractiveness of a city. The Working Group therefore appeals to all members of the community to work together to contain road traffic congestion and sustain our city's competitiveness.

56. The Working Group also urges the Government to study and consider the recommendations of this Report. The Working Group hopes that the Government would accept the recommendations and implement them as soon as practicable.

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Chapter 1 – The Study

1.1 Overview

1.1.1 This Chapter gives a brief account of the background of the study, the terms of reference (“TOR”) and membership of the TAC and the Working Group formed under TAC to take forward the study, and how the Working Group proceeded with its work.

1.2 Background

1.2.1 Hong Kong is a densely populated city. Moving people and goods around has always been a great challenge. As the community develops and economic activities increase, there are intensifying uses of road space, coupled with a growth in vehicle fleet. At the same time, the scope for further expansion of our road network is increasingly limited, in particular in developed urban areas. Road traffic congestion has therefore become a common scene. It affects all road users, not just bringing inconvenience to them but also causing adverse impact on our economic activities, the environment as well as the quality of life.

1.2.2 The worsening of road traffic congestion in recent years can be easily felt by our community. It can also be seen in the regional car journey speeds measured through annual surveys conducted by the Transport Department (“TD”). Over the past 10 years, the average speed on Hong Kong Island (“HKI”) has been the lowest, although it has remained stable at around 20 km/h. On the other hand, while the average speeds in Kowloon (“KLN”) and the New Territories (“NT”) are higher, there is a worsening trend which is a cause for concern. Indeed, the current car journey speeds on some major traffic corridors during the weekday morning peak hours can be close to 10 km/h, which are not much faster than the average walking speed of an adult at 4 to 5 km/h.

1.2.3 The Government is determined to step up its efforts to alleviate road traffic congestion. In March 2014, the Secretary for Transport and Housing invited the TAC to conduct a study to identify various factors contributing to road traffic congestion in Hong Kong and to put forward practicable recommendations

to the Government to tackle road traffic congestion. The TAC welcomed and readily accepted the invitation.

1.3 Working Group under TAC

1.3.1 A Working Group was subsequently formed in April 2014 under the TAC to take forward the task. The Working Group's TOR are –

- (a) to identify various factors contributing to overall road traffic congestion in Hong Kong;
- (b) to suggest short and medium-term measures at territorial level to contain road traffic congestion which are practicable and can be implemented within a reasonable period of time;
- (c) to flag up long-term measures at territorial level for further study by the Government; and
- (d) to submit a report to the TAC for consideration and endorsement for sending to the Government in December 2014.

1.3.2 The membership of the Working Group is at **Annex 1A**. The membership and TOR of the TAC is at **Annex 1B**.

1.3.3 The Working Group held its first meeting in April 2014 and completed its work in early December 2014. During the eight-month study period, it held a total of nine meetings. The Working Group conducted the study through consideration of papers and deliberations in meetings. The Working Group also made use of an independent market research company, engaged through TD, to gauge public opinions¹ on the perceived causes and acceptable solutions for road traffic congestion. The company conducted telephone and face-to-face interviews to collect public views from mid-July to mid-August 2014. Findings

¹ The POS was conducted to gauge the feedback of the general public and drivers on various road traffic congestion issues in broad terms. The TAC opines that more in-depth surveys may be required later if public views are to be collected on some specific measures.

of the POS and the questionnaires used are set out at **Annexes 1C and 1D** respectively.

1.3.4 Having regard to its TOR, the focus of the Working Group was to identify the main causes of road traffic congestion and recommend possible measures at a territory-wide level. These recommendations are intended to be additional measures which can work in conjunction with the Government's on-going measures to tackle congestion. The Working Group had looked at both local situations and overseas experiences in formulating its recommendations. It had also taken into account the results of the POS, in particular the degree of likely public acceptance of possible measures to contain road traffic congestion, when putting forward its recommendations.

1.3.5 This is the Working Group's report. It was fully endorsed by the TAC and is to be sent by the TAC to the Government for consideration.

* * * * *

Chapter 2 – Road Traffic Congestion Situation in Hong Kong

2.1 Overview

2.1.1 This Chapter outlines the road traffic situation in Hong Kong, examines the possible causes of road traffic congestion, and highlights the problems arising from road traffic congestion.

2.2 Road traffic conditions in Hong Kong

(a) Transport modes

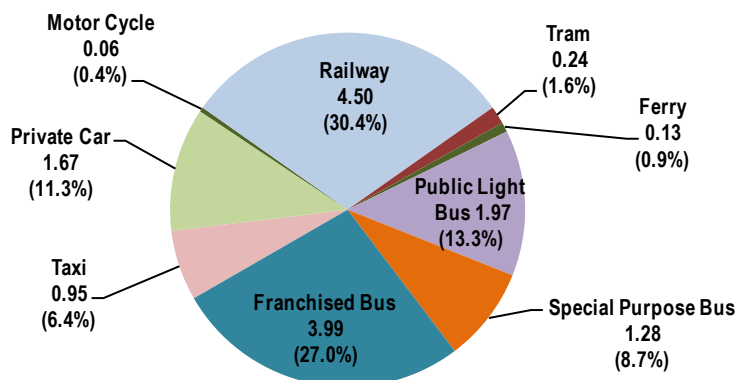
2.2.1 In Hong Kong, most people rely on PT for commuting; close to 90%¹ of the 14.8 million daily passenger boardings are made on the PT system. While railway serves as the backbone of the system, it is supplemented by other PT modes, including franchised buses, public light buses, special purpose buses², taxis, trams and ferries. As shown in the total daily passenger boardings in **Figure 2A**, road-based transport modes account for 68.7% of the daily passenger boardings. This underscores the importance to keep a smooth flow of traffic on the road. PCs, though taking up the major share of the vehicle fleet (about 70%³), only carry 11.3% of the total daily passenger boardings.

¹ According to the Travel Characteristics Survey 2011 conducted by TD, 88.3% of the daily passenger boardings are based on PT.

² “Special purpose bus” includes company bus, school bus, resident bus, tourist bus, shuttle bus, cross-boundary bus, etc., but excludes public light bus.

³ In 2011, the total number of licensed vehicles and licensed PCs were 630 281 and 434 843 respectively.

Figure 2A: Daily passenger boardings (Weekday) (Million)⁴



(b) Car journey speeds

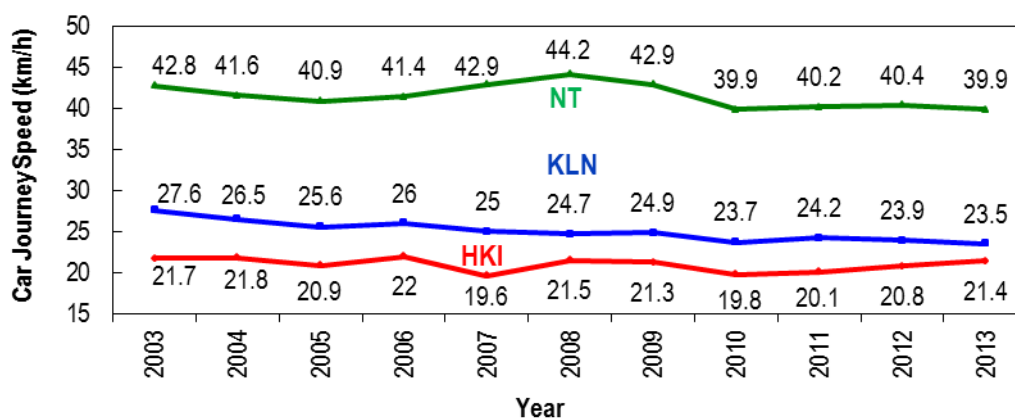
2.2.2 Car journey speed is a good indicator of the degree of road traffic congestion. **Figure 2B** shows the trend of regional average car journey speeds in HKI, KLN and the NT during the morning peak hours⁵ on normal weekdays over the past 10 years⁶.

⁴ Source: Travel Characteristics Survey 2011.

⁵ TD conducts surveys on car journey speeds every year since 1987. In 2013, the surveys involved the measurement of journey times to travel along each of the 61 routes (29 in HKI/KLN and 32 in the NT) on normal weekdays during the morning peak hours (0800 to 0930 hrs).

⁶ TD started to survey the journey time on normal weekdays during the evening peak hours (1700 to 1900 hrs) since 2003. In 2013 nine routes were surveyed during the evening peak hours.

Figure 2B: Car journey speeds during the morning peak hours on weekdays (2003 – 2013)



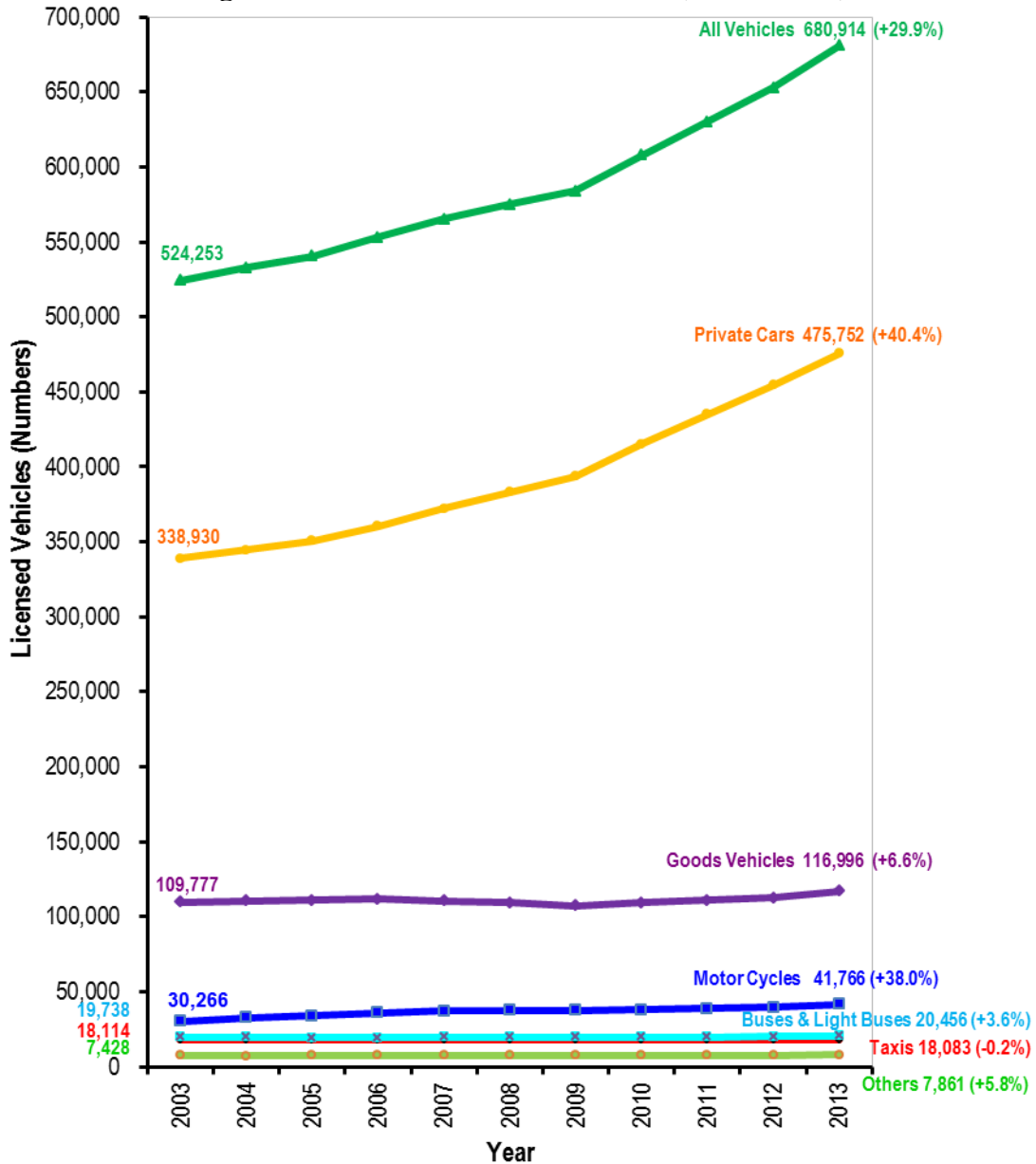
2.2.3 Among the three regions, the average speed on HKI is the lowest, and remains at around 20 km/h. Such an average regional speed is considered quite low; in fact in some road sections in Central with the worst road traffic congestion, average journey speed close to 10 km/h has been recorded⁷. In KLN, the average speed is slightly higher, but there has been a declining trend of the average speeds, from 27.6 km/h in 2003 to 23.5 km/h in 2013. The average speed in the NT is also undergoing a declining trend, from 42.8 km/h in 2003 to 39.9 km/h in 2013, although it is still higher than that of HKI and KLN in absolute terms. The above figures suggest that road traffic congestion is serious on HKI and is worsening in KLN and the NT.

(c) Vehicle fleet size

2.2.4 Vehicle fleet size is a major factor contributing to road traffic congestion, especially when there are limitations in further expanding the public road network (more details in **paragraphs 2.2.12 and 2.2.13**). The number of total licensed vehicles increased by about 30% from about 524 000 in 2003 to about 681 000 in 2013. **Figure 2C** shows the vehicle fleet size by vehicle type during the period.

⁷ Car journey speeds in some road sections in Central are listed in **Annex 2**.

Figure 2C: Licensed vehicle fleet size (2003 – 2013)

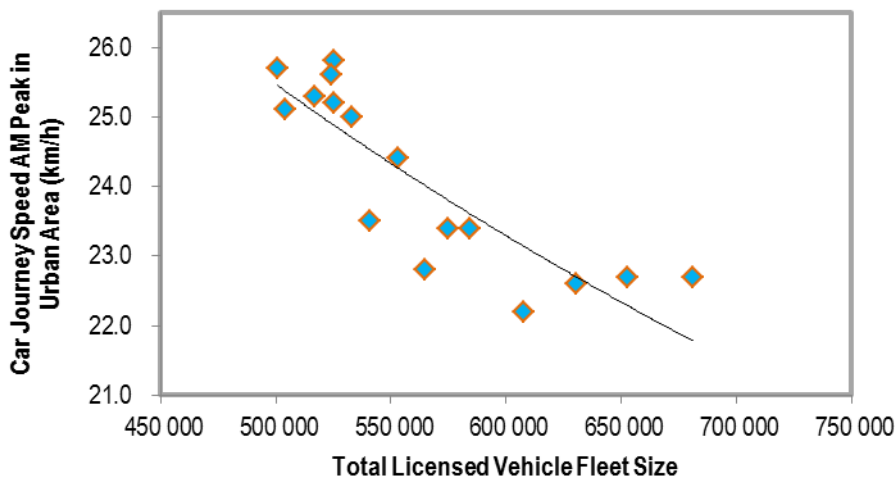


2.2.5 PC has remained the highest in number among different types of vehicles, and its growth rate is also the most alarming. Over the past 10 years, the number of PCs increased by about 40%. This increase rate is much higher than the corresponding growth of the total number of all licensed vehicles, which stands at about 30%. In fact, the increase in the number of PCs constituted about 87% of that of the total number of all licensed vehicles during the same period. The share of PCs in the total licensed vehicle fleet has grown over time, reaching 70% in 2013. As of September 2014, the growth rate of PCs is 4.6% p.a., which is very high and substantially higher than the growth rate of 3.4% p.a. for the total licensed vehicle fleet.

2.2.6 In contrast, there was only a moderate increase in the number of buses and light buses, from 19 738 in 2003 to 20 456 in 2013 (+3.6%). The increase is insignificant, compared to the population growth during the period, from 6.76 million in 2003 to 7.22 million in 2013 (+6.8%). Goods vehicles, having an essential and indispensable role in supporting the economy, have recorded moderate growth in number (+6.6%), despite the fact that the economy of Hong Kong has grown significantly, with gross domestic product increasing by 69% from about \$1,257 billion in 2003 to \$2,125 billion in 2013. Compared with the increase in the number of buses, light buses and goods vehicles from 2003 to 2013, the rising trend of PC (+40%) is out of proportion and a real cause for concern.

2.2.7 There is also a reasonably clear correlation between the vehicle fleet size and the car journey speed in the urban areas⁸. **Figure 2D** shows such a historical relationship. As the vehicle fleet size gets larger, more vehicles are driven on the road network, leading to a drop in the average speed and an aggravation of congestion.

Figure 2D: Historical relationship between vehicle fleet size and car journey speed in urban areas



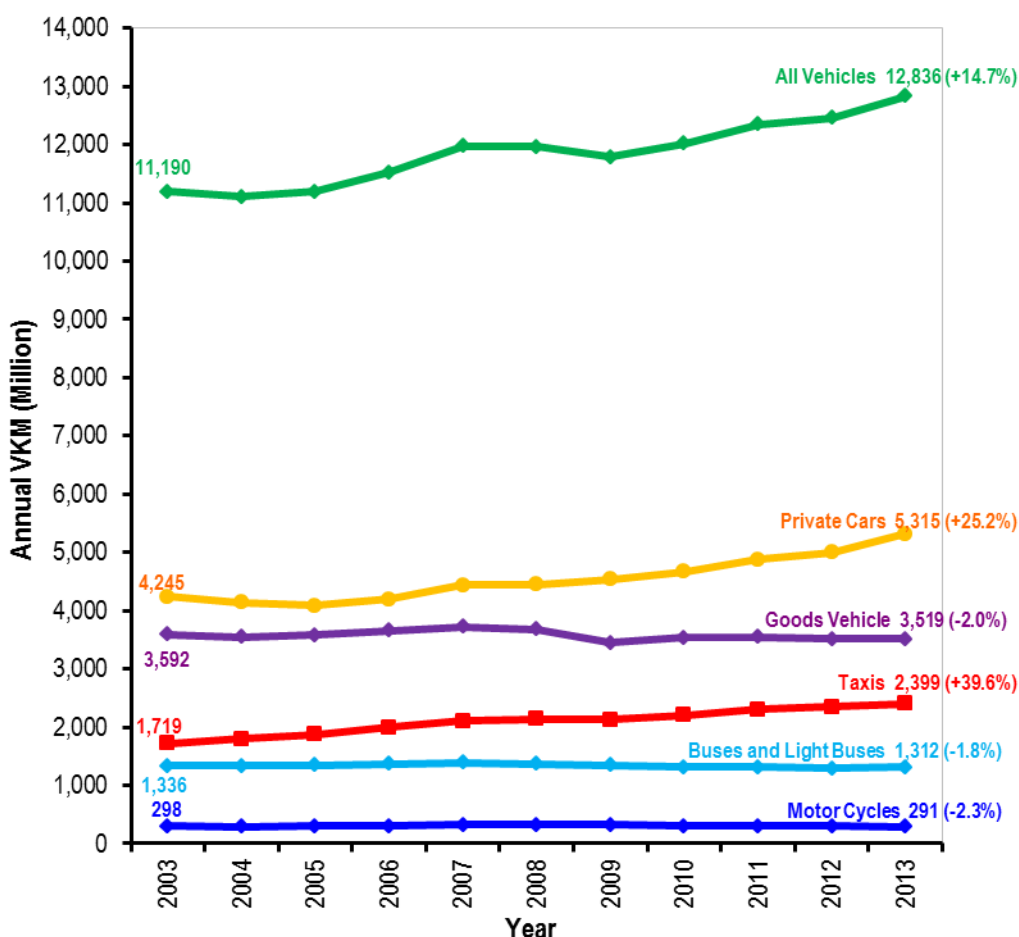
⁸ Only the car journey speed in the urban areas was taken into account in developing the relationship, as the congestion problem in the urban areas is more serious, and that the scope of expanding the road network in urban areas is more limited compared to that of the NT.

(d) Vehicle usage

2.2.8 More licensed vehicles result in a larger number of vehicles on the road. The total kilometres travelled by all vehicles (i.e. vehicle-kilometres (“VKM”)) is an indicator of vehicle usage.

2.2.9 **Figure 2E** shows the breakdown of the annual VKM travelled among different vehicle types, from 2003 to 2013. During this period, the annual VKM travelled by PCs increased by 25% and this increase alone accounted for an alarming 65% of the growth in the total annual VKM travelled by all vehicles. The annual VKM travelled by goods vehicles, motor cycles, buses and light buses remained fairly stable in the past 10 years, while the usage of taxis is highly correlated with Hong Kong’s economic performance.

Figure 2E: Annual VKM by vehicle type (2003 – 2013)



(e) Traffic mix on major roads

2.2.10 PCs not only contribute most to the total vehicle fleet size and the total vehicle usage, they also constitute the largest category of vehicles using our limited road space. The vehicle composition on 20 major roads during the morning peak hours in 2013 is shown in **Table 2A**. PCs contribute most to the traffic flow at all the listed tunnels and most of the major roads, where they account for about 40% to 70% of the total numbers of vehicles.

2.2.11 The shares of road space of buses and light buses⁹ are generally low to moderate. Except on Nathan Road, they only share about 5% to 25% of the total traffic flow on the major roads. It should be noted, however, that they have high passenger carrying capacity and carry about 71% of the total daily road-based passenger boardings (**paragraph 2.2.1** refers). On the contrary, PCs occupy a lot of space on major roads but only carry 16% of the total daily road-based passenger boardings. PCs are obviously much less efficient passenger carriers.

**Table 2A: Vehicle mix on
20 major roads during the morning peak (2013)¹⁰**

	Private Car	Taxi	Goods Vehicle	Bus and Light Bus	Motor Cycle
Island Eastern Corridor	37%	24%	27%	9%	3%
Connaught Road Central	22%	45%	6%	25%	2%
Harcourt Road	44%	34%	11%	9%	2%
Queensway	36%	37%	6%	20%	1%
Aberdeen Tunnel	46%	16%	17%	18%	3%
Cross Harbour Tunnel	48%	7%	24%	14%	7%
Eastern Harbour Tunnel	56%	18%	15%	7%	4%
Western Harbour Tunnel	51%	20%	11%	16%	2%
Chatham Road North	39%	20%	21%	15%	5%
Princess Margaret Road	62%	15%	12%	7%	4%
Prince Edward Road West	43%	24%	15%	17%	1%
Nathan Road	24%	16%	16%	42%	2%
West Kowloon Highway	48%	18%	18%	13%	3%
Lung Cheung Road	44%	17%	27%	7%	5%
Lion Rock Tunnel	57%	8%	21%	12%	2%

⁹ Buses and light buses here include franchised buses, special purpose buses, and public and private light buses.

¹⁰ Source: Annual Traffic Census (2013), TD.

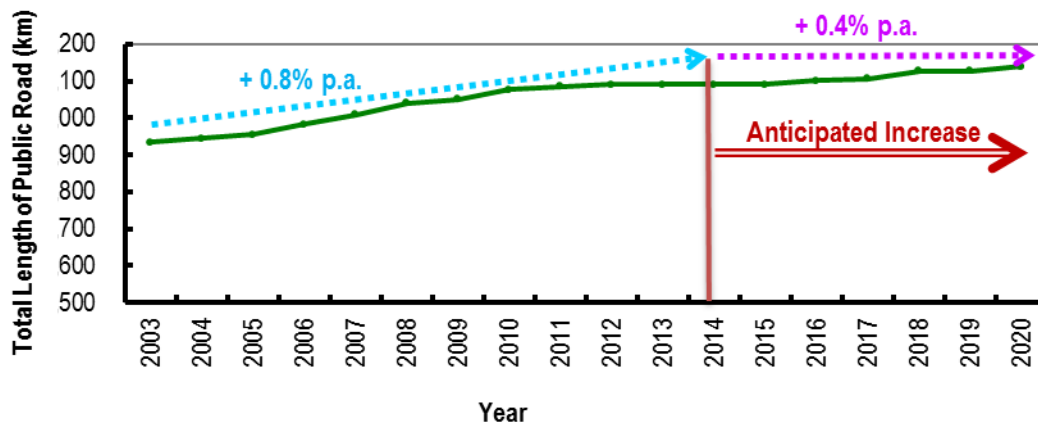
	Private Car	Taxi	Goods Vehicle	Bus and Light Bus	Motor Cycle
Tate's Cairn Tunnel	59%	13%	15%	10%	3%
Tai Po Road – Ma Liu Shui	69%	13%	7%	10%	1%
Tolo Highway	58%	7%	28%	5%	2%
Tuen Mun Road	44%	7%	34%	12%	3%
Tseung Kwan O Tunnel	51%	15%	22%	8%	4%

Note: Mode with the highest % on each road is shown in bold.

(f) Public roads in Hong Kong

2.2.12 Roads are often constructed in tandem with, or sometimes in anticipation of, the growth of the city. In some instances, construction of roads has also become a measure to accommodate the increase in road usage. The road network in Hong Kong is in fact quite extensive, and the trend of the total length of public road since 2003 is shown in **Figure 2F**.

Figure 2F: Total length of public road since 2003



2.2.13 After the noticeable road network expansions between 1980s to 1990s, including the completion of major road links for the new airport and its associated projects, the growth in the total length of public road slowed down with an average growth rate of 0.8% p.a. between 2003 and 2013. With the limited number of new road projects being implemented or planned in the

coming few years¹¹, it is expected that the growth rate would drop to around 0.4% p.a. up to 2020. Such growth is much lower than the current growth of total vehicle fleet at about 3.4% p.a.¹² Indeed, road traffic congestion has already become a common scene in both strategic roads and in some local roads in built-up areas, such as Des Voeux Road Central and Chater Road in Central, Cameron Road in Tsim Sha Tsui, etc. Providing new roads to divert the traffic is simply not sustainable due to land and environmental constraints, while the scope for widening local roads or improving road junctions in built-up areas are also very limited (please refer to **paragraphs 2.3.3 and 2.3.4**). Therefore, traffic conditions will only continue to worsen if no action is taken to contain the vehicle growth.

2.3 Causes of road traffic congestion

2.3.1 According to the POS conducted in 2014, the majority of the general public (68%) and in particular drivers (82%) consider that there is moderate to heavy road traffic congestion in Hong Kong. This is in line with the various indicators described in **Section 2.2**, such as the decrease in car journey speeds and the increase in vehicle usage.

2.3.2 There are various recurrent causes of road traffic congestion¹³, which could be broadly categorised into the following five groups –

- (a) limited scope for more road transport infrastructure;
- (b) excessive number of vehicles;
- (c) competing use of road space;
- (d) management and enforcement issues; and
- (e) road works.

¹¹ New projects include the Hong Kong–Zhuhai–Macao Bridge Hong Kong Link Road, CWB, Tuen Mun – Chek Lap Kok Link, Connecting Road between Liantang / Heung Yuen Wai Boundary Control Point and Fanling Highway, etc.

¹² As of September 2014, the current growth of total vehicle fleet is about 3.4% p.a.

¹³ Non-recurrent causes do not occur on a regular basis in terms of location and timing. They include major planned events which occupy road space and/or generate additional traffic (e.g. public processions, major festive and sports events such as marathon), unplanned incidents (e.g. traffic accidents, vehicle breakdowns, burst of water mains) and inclement weather. The non-recurrent causes are not the focus of this Study.

(a) Limited scope for more road transport infrastructure

2.3.3 While the public road network has expanded in the past decades, opportunities for building more roads are more limited in the future. In particular, in the densely developed urban areas, there is very limited scope for further expansion of the road network. The physical constraints imposed by the congested urban environment render the planning and provision of new strategic roads extremely challenging, if not impossible. New roads and highways similar to the CWB under construction are becoming more difficult to materialise, due to the challenges of limited space in the urban areas, the restriction on reclamation and visual impact. Environmental issues, such as air quality and noise impact associated with the construction of any new highway within the urban area, are becoming more difficult to overcome. The new Air Quality Objectives, which came into force in January 2014, impose even stricter environmental requirements for the planning of new roads. There is rising public aspiration to minimise, and even avoid, the environmental impact associated with the construction and functioning of a new road. As a result, a number of proposed highways, such as the coastal highway between Kennedy Town and Aberdeen (known as Route 4), and the strategic highway connecting the Northwest NT and North Lantau (known as Route 11), have been shelved in the past, notably due to grave difficulties in overcoming various public objections.

2.3.4 The above constraints are equally applicable to local road improvement works, such as widening of junctions and construction of grade-separated structures (e.g. flyovers, footbridges or subways). These works are also constrained by limited space, crowded underground utilities, visual impact considerations, environmental concerns or impact on existing traffic during construction. Public views, in particular the views from drivers and pedestrians, are often in conflict¹⁴. It is not uncommon that public support and consensus cannot be secured to implement the necessary junction improvement schemes, and so the junctions that are operating close to or even over their capacity, often remain problematic. Traffic queues build up, and in some particularly congested areas, the traffic queues at one junction may tail back to the junctions upstream, at times leading to a gridlock of the road network in the vicinity.

¹⁴ For example, both drivers and pedestrians request for longer green times for different phases in a traffic signal cycle.

2.3.5 Spatial constraint in urban areas also imposes difficulties in providing adequate parking spaces. In recent years, the vehicle fleet size has been increasing rapidly while the supply of car parking spaces has lagged far behind¹⁵. As a result, in 2013, while the number of licensed PCs was 475 800, only around 397 000 parking spaces could be provided in residential developments¹⁶. The problem of illegal parking, both at the home and non-home ends, has contributed to congestion in local roads and has become an increasing concern in the community.

(b) Excessive number of vehicles

2.3.6 While the limitations in providing more transport infrastructure may affect the capacity to accommodate the growing vehicle fleet, one may argue that building more roads can in fact fuel the growth of the fleet and induce more car usage. The POS results show that the general public, as well as drivers, consider that too many vehicles on roads is one of the major causes of road traffic congestion, and they support reducing the number of PCs. This coincides with the fact that PCs, with a low passenger-carrying capacity, has increased by about 40% over the past 10 years, which is much higher than the corresponding growth of other vehicles fleet (at 11%). In Hong Kong, we have a well-developed and affordable PT system that accommodates about 90% of the daily passenger boardings. Unlike many overseas countries/ cities, owning and using a PC for commuting is not a basic or essential need, at least for the great majority of the public who do not live in remote areas which are less accessible by PT.

2.3.7 Quite some members of the public also consider that the number of franchised buses can be reduced, probably because of low patronage of some bus routes. As franchised buses are large in size and occupy more road space per vehicle, they could be inefficient road users if the patronage is low, although it should be recognised that some of these low-patronised bus trips are essential trips¹⁷, e.g. buses near the end of their routes travelling back to bus termini, with

¹⁵ While the fleet size of PCs has increased by 40% from 2003 to 2013, only 14% more parking spaces for PCs in residential developments were provided during the same period.

¹⁶ Only the night time parking spaces in residential developments are counted here.

¹⁷ There is a need to strike a balance among different factors, including passenger demand, bus operation efficiency, road traffic conditions and environmental benefits.

most passengers having alighted. For more details on the Government's on-going efforts to pursue bus rationalisation, please see **paragraphs 3.5.12 to 3.5.17**. Goods vehicles play an important role in our economy, while public light buses and taxis take up a less significant share of road space as compared with PCs and buses. The general public appears to be generally content with the share of road usage by these vehicles, as not many people consider it necessary to reduce the number of these vehicles, as revealed in the POS findings.

(c) Competing use of road space

2.3.8 Apart from the excessive number of vehicles running on roads, in some local areas, the use of road space is often affected by various competing uses, thus sterilising the road capacity. They obstruct traffic and can cause road traffic congestion. Activities commonly contributing to such competing uses of road space include –

- (a) loading/ unloading activities of goods vehicles;
- (b) picking up/ setting down activities of buses, public light buses, coaches, taxis and PCs; and
- (c) vehicles circulating on roads looking for on-street parking spaces.

2.3.9 The Working Group notes that there is a genuine need for the above activities, especially in fully developed areas where the provision of off-street loading/unloading and picking up/setting down facilities is limited. However, these activities would cause obstruction to local traffic, resulting in traffic queues upstream and affecting the operation of critical road junctions and busy roads. For example, tourist coach activities (such as prolonged waiting and illegal parking) along Chatham Road South and Salisbury Road in Tsim Sha Tsui are rampant during peak tourist visiting hours. These activities affect the smooth flow of the general traffic.

(d) Management and enforcement issues

2.3.10 TD has put in place traffic management measures to maximise the efficient use of limited road space. These will be further elaborated in **Chapter 3**. However, no matter how targeted the measures are designed to be, they can only be effective if road-users are law-abiding. Illegal acts, such as

illegal parking, double parking, loading/ unloading activities in restricted zones, prolonged loading/ unloading in non-restricted zones or vehicles staying inside the yellow-box at road junctions would reduce road capacity or block other traffic. Complementary and effective enforcement to deter non-compliance is therefore essential. While the number of fixed penalty tickets issued for congestion-related offences over the past 10 years has increased by about 98%, there is a general perception in the community that enforcement against congestion-related offences is not stringent enough; the public considers that enforcement action by the Police needs to be strengthened.

2.3.11 The Working Group notes that in recent years, Police manpower has been deployed to perform other duties, such as crowd control and management of the increasing number of public processions and other safety-related offences. This may affect the priority placed by the Police on enforcement against congestion-related offences.

2.3.12 The effectiveness of enforcement is also hampered by the fact that the level of fixed penalty against congestion-related offences has lost its deterrent effect over time. The last successful legislative amendment to raise the level of penalty was made back in 1994, while the CCPI has increased by 40% between 1994 and 2013.

(e) Road works

2.3.13 Road works are common in Hong Kong. They occupy the road space and in some cases result in or add to road traffic congestion. According to the POS results, the general public and the drivers consider road works as one of the major causes of road traffic congestion.

2.3.14 Road works sometimes cause nuisance and road traffic congestion, but are essential for our society. They are needed for the improvement, maintenance and repair of the concerned road section or the public utilities underground (e.g. water mains, drainage pipes, gas pipes, power and telecommunication cables). Road works may also be required as part of infrastructure projects.

2.3.15 Although scheduling road works at night time when there is generally much less traffic on the road can help reducing the disruption to traffic, it may cause other unnecessary nuisance to the public, notably excessive noise at night. Some road works, e.g. repairs of burst water pipes, also require immediate action. Better co-ordination among different road works in the vicinity is thus the key to minimise disruption caused to road users. The Government has put in place an excavation permit (“XP”) system to manage road works. The details of that system will be further elaborated in **Chapter 3**.

2.4 Consequences of road traffic congestion

2.4.1 Road traffic congestion does not only affect individual motorists, but also results in inconvenience and costs in both tangible and intangible terms to society as a whole.

(a) Increase in travel time and cost

2.4.2 Increase in travel time is often the most significant consequence of congestion as perceived by all road users, be they drivers or passengers of private vehicles, or passengers of road-based PT. Apart from the time wasted during congestion, many people also need to allow extra time for the journey to cater for the uncertainty in trip time due to congestion, and the amount of extra time allowed could be substantial if the consequence of delay is high (e.g. late for work with penalty, late for important meetings, loss of business opportunities, etc.). The longer travel time and the extra time allowed, if not incurred as a result of congestion, could otherwise be spent on economically productive or non-economic activities, including work, meetings, social gatherings, doing sports, watching films and rest, etc.

(b) Other tangible costs

2.4.3 In addition to the costs incurred by individuals as described in **paragraph 2.4.2**, road traffic congestion also impacts on the business sectors and in particular to those involved in delivery services and road-based PT operators. When goods or services cannot be delivered on time, the business sectors need to incur additional inventory costs, logistics costs and even compensation costs.

2.4.4 While stuck in road traffic congestion, vehicles need to stop temporarily and frequently, resulting in a stop-and-go traffic pattern. Such traffic pattern increases the total operating cost of vehicles, as vehicles consume more fuel when being used in such a way. More frequent repair and maintenance of vehicles would also be required. It also causes road surface to deteriorate much quickly, resulting in additional maintenance cost for upkeeping the serviceability of the roads.

(c) Intangible costs

2.4.5 Road traffic congestion also brings the following intangible consequences, and the costs involved could be high –

- (a) long traffic queue in congestion worsens roadside air quality, which not only exacerbates the threat to public health, but also affects the quality of life and the image of Hong Kong as a world-class metropolis. This will undermine Hong Kong's attractiveness for overseas companies to establish regional headquarters/branch offices in Hong Kong;
- (b) congestion often interferes with the passage of emergency vehicles and delays them in responding to incidents; and
- (c) the rapid increase in the number of vehicles has resulted in an increasingly rampant illegal parking situation. In Hong Kong, there are many narrow streets in the urban areas and the consequence of illegal parking on these streets and sometimes on the footpaths, or in front of emergency accesses, could be serious and could give rise to public safety concerns.

* * * * *

Chapter 3 – On-going Measures to Manage Road Traffic Congestion

3.1 Overview

3.1.1 This Chapter outlines the on-going measures which the Government has been pursuing to alleviate the road traffic congestion problem.

3.2 On-going measures

3.2.1 The Working Group has studied a host of measures to ease road traffic congestion. Some of the measures studied are already pursued by the Government on an on-going basis. These on-going measures could be broadly categorised into two groups –

- (a) measures which the Working Group has raised and considered that the Government should continue to pursue and keep their effectiveness under regular review. These will be briefly reported in this chapter; and
- (b) measures which the Working Group considers to have room for strengthening. These will be discussed together with other recommendations in **Chapter 4**.

3.3 Transport policy

3.3.1 The Working Group notes that the objective of the Government's transport policy is to provide a transport system which can maintain a reasonable level of mobility of people and goods necessary to support economic growth and to meet the needs of the community in an environmentally sustainable manner. The Government has been tackling road traffic congestion following a three-pronged approach which comprises –

- (a) improving transport infrastructure;
- (b) expanding and improving PT system; and
- (c) managing road use.

3.4 Improving transport infrastructure

3.4.1 Hong Kong has been adopting an integrated approach in land-use planning and transport planning. An extensive road network and other transport infrastructures have been developed over the years to serve the needs of the commuting public and the various social-economic activities. However, land is a scarce resource in Hong Kong and, as discussed in **paragraphs 2.3.3 to 2.3.5**, there are various physical, environmental and social constraints against building more roads to meet the demands of the growing vehicle fleet. The challenge is the greatest in the urban areas where the most severe road traffic congestions often occur.

3.4.2 The development of a comprehensive railway system to serve as the backbone of our PT system is therefore the key in improving the transport infrastructure. At present, the total length of Hong Kong's railways is about 218 km. Upon completion of the five railway projects under construction¹, the railway network will reach more than 270 km by 2021, and be accessible to more than 70% of the population. In September 2014, the Government announced the Railway Development Strategy 2014 to implement seven more railway projects², extending the railway network to over 300 km by 2031. With these, the railway network is expected to serve areas inhabited by 75% of the population.

3.4.3 To complement the development of railways and to minimise the need for road based transport over short distance, the Government has put increasing emphasis on expanding and improving pedestrian facilities such as the provision of hillside escalator links and elevator systems to promote walking as a transport mode for short distance trips. To enhance vertical connectivity, two hillside escalator projects, viz. the Central Mid-Levels Escalator Link between Des Voeux Road Central and Conduit Road and the Centre Street Escalator Link between Third Street and Bonham Road, were commissioned in 1993 and 2013 respectively to provide comfortable pedestrian links in the areas. Another two

¹ The five railway projects include the West Island Line, the South Island Line (East), the Kwun Tong Line Extension, the Guangzhou-Shenzhen-Hong Kong Express Rail Link (Hong Kong Section), and the SCL.

² The seven railway projects include the Northern Link and Kwu Tung Station, the Tuen Mun South Extension, the East Kowloon Line, the Tung Chung West Extension, the Hung Shui Kiu Station, the South Island Line (West) and the North Island Line .

pedestrian links, namely, the Pedestrian Link at Tsz Wan Shan and the Yuet Wah Street Pedestrian Linkage, are being implemented under the Shatin to Central Link (“SCL”) project and the Kwun Tong Town Centre Redevelopment respectively.

3.4.4 To enhance the horizontal connectivity, suitable pedestrian facilities have been added to NDAs for better connection to nearby attraction points. Provision of an elevated walkway linking Choi Ying Estate and Choi Fuk Estate at Jordan Valley with the Kowloon Bay MTR station and the pedestrian links³ in the Kai Tak Development are typical examples. Subway networks have also been developed in urban centres such as Tsim Sha Tsui to improve walkability. To bring further convenience to the public, in particular the elderly, the Government has retrofitted barrier-free access facilities at certain public walkways. The Working Group supports the Government to continue the work in this direction. With enhanced walkability and connectivity, motorists may be more willing to walk and reduce their reliance on cars.

Figure 3A: Centre Street Escalator Link between Third Street and Bonham Road



Centre Street Escalator Link

3.4.5 Some people advocate cycling as an alternative to mechanised modes of transport. While cycling has its environmental benefits, roads in Hong Kong’s urban areas are usually busy and crowded, with frequent loading and unloading, as well as setting down and picking up activities. It is difficult to find suitable space in urban areas for building cycle tracks in urban areas without affecting traffic or compromising the safety of road users. Cyclists riding on

³ In the Kai Tak Development, there will be new and enhanced pedestrian links, including subways, footbridges and footpaths.

carriageways are more vulnerable to traffic accidents. In 2013, there were over 1 000 accidents on the carriageways involving bicycles. As such, in general, the Government does not encourage the public to use bicycles as a transport mode in urban areas. Compared with urban areas, the traffic flow density is relatively lower in new towns or NDAs, providing a more suitable environment for cyclists to commute for short distances. Therefore, the Government has been striving to foster a bicycle-friendly environment in new towns and NDAs for short-distance travel or leisure purposes. Measures adopted include developing new cycle track network, as well as improving existing cycle tracks and bicycle parking facilities.

3.4.6 Despite the constraints in expanding the current road network, the Working Group notes that the Government will continue to review and explore opportunity to build new roads or improve/ widen the existing roads to serve the social and economic needs of the community. Strategic road projects, such as CWB, Tuen Mun – Chek Lap Kok Link, the Hong Kong–Zhuhai–Macao Bridge Hong Kong Link Road, the connecting road between Liantang/Heung Yuen Wai Boundary Control Point and Fanling Highway, Widening of Tolo Highway/Fanling Highway – Stage 2, etc., are under construction. The total estimated cost of these strategic road projects is about \$140 billion. In addition, strategic road links such as Tuen Mun Western Bypass, Central Kowloon Route, Tseung Kwan O – Lam Tin Tunnel, etc. are also under active planning.

3.4.7 Apart from the above strategic road projects, the Government will continue to put in place measures to improve the local road network and pedestrian facilities where opportunities arise. The improvements may be in the form of set-backs of building lines for road widening, junction improvements, as well as the provision of grade-separated pedestrian facilities with direct links to the new developments or re-developments. Over the past three years, there are about 20 improvement projects of relatively larger scale (more than \$30 million each) which have been commissioned or are under construction. The total cost of these projects is about \$2.5 billion.

3.4.8 Nonetheless, building more road transport infrastructure alone cannot resolve traffic congestion — it may actually induce more demand for vehicle usage and fuel vehicular growth.

3.5 Expanding and improving PT system

3.5.1 Hong Kong has one of the most efficient PT systems in the world⁴. Our system is highly regarded for its ability to accommodate the mobility need of the city and its quality service.

3.5.2 The Working Group notes that the Government has announced the commencement of a Public Transport Strategy Study (“PTSS”) to look into issues relating to other PT modes following the completion of the Railway Development Strategy 2014. The Working Group agrees that it is important to examine how different non-railway PT modes should continue to complement each other with a view to further improving the PT service amidst the expanding rail network.

3.5.3 In the meantime, the Working Group notes that the Government has adopted a number of measures to continue to expand and improve the PT system. The Working Group considers these measures worth pursuing and should be kept under regular review. These measures are highlighted below.

(a) Enhancement of the attractiveness of PT

(i) Additional services at new developments

3.5.4 The Working Group notes that the Government has been monitoring the needs of the public for PT services. To meet the evolving needs of the travelling public, TD updates, on annual basis, the major planning data for the coming five years to facilitate the planning for franchised bus and green minibus (“GMB”) services. Such data include population changes on a district basis, population intakes of public housing developments, and commissioning of new infrastructure. Based on up-to-date planning data, TD, together with franchised bus companies, would devise bus route development programmes (“RDPs”) and consult district councils on those as an annual exercise. Apart from this, where warranted, separate PT re-organisation plans (“PT Plan”) devised specifically for major development or large-scale infrastructure would be drawn up. Where there are new developments, new PT routes will be introduced and/ or existing

⁴ Hong Kong is ranked the first in the world in the Urban Mobility Index, a measure on the ease of commuters to travel around cities, which is compiled by an international consultancy company Arthur D. Little.

PT routes enhanced to serve the needs of passengers. For new developments of substantial scale, a combination of PT modes is often introduced to cater for different needs. Adequate space will also be reserved in the new developments for providing necessary facilities, such as PTIs to accommodate the proposed PT services. A case in point is the intake of the public housing estates at Kai Tak, where it is now served by franchised bus services. Transport provision will be further enhanced by a new GMB service in the near future and the MTR SCL in the longer term. Similarly, the new public housing estates under the Housing Development on Anderson Road (“DAR”) will be provided with franchised bus services, supplemented by GMB service upon population intake in late 2015. According to the Railway Development Strategy 2014, the East Kowloon Line will run along the north Kwun Tong area, connecting the Diamond Hill Station of the Kwun Tong Line (and the future SCL) and the Po Lam Station of the Tseung Kwan O Line, to serve the densely populated areas in Choi Wan, Shun Tin, Sau Mau Ping and Po Tat, as well as the committed major development projects in the area. An indicative implementation window from 2019 to 2025 is recommended for planning purpose to support the planned developments in the Anderson Road/Sau Mau Ping area. The actual implementation of the project is contingent upon the technical and financial studies as well as public consultation at the detailed planning stage.

(ii) Enhancing the efficiency of PT services

3.5.5 The Working Group notes that the Government has been working with the PT operators to maximise the efficiency of PT services. For example, for franchised bus services, the same departure points and destinations are often served by more than one group of bus routes (say, one with fewer stops in-between while one meandering through the busier part of the city) to serve passengers with different needs. To minimise lost trips and service delays, TD has formed working groups with bus companies to explore traffic management measures at individual locations to facilitate bus operations. TD has also been actively reviewing the journey time, service frequencies and vehicle allocation of individual routes to better meet passenger demand.

3.5.6 As regards railway services, apart from the plan on expanding the existing network (please refer to **paragraph 3.4.2**), the Government also closely monitors the services provided by the MTR Corporation Limited (“MTRCL”). While the MTRCL has increased train frequencies where the signalling system

permits, it has also put in place various measures, such as deploying platform assistants to better manage the boarding and alighting process and to even out passenger distribution on platforms and in trains (e.g. encouraging passengers to move into the interior of train compartments) with a view to achieving smoother passenger flow and optimising the efficiency of train operations during peak hours. The signalling system of some of the lines of the MTR network, such as Island Line, Tsuen Wan Line, Kwun Tong Line and Tseung Kwan O Line, is due for upgrading in the coming few years. When the work is completed by 2022, train frequencies and hence carrying capacity of these lines will be enhanced. Besides, the maximum carrying capacity of all train compartments of the existing MTR railway lines (excluding Light Rail) are calculated based on accommodating up to 6 persons (standing) per square metre (“ppsm”) on average. That means railway operation would remain safe even when loaded with passengers at this density level. Nevertheless, in today’s actual railway operation, passenger riding habits have changed (e.g. more passengers read newspapers or use mobile devices during their trips that require more personal space) and trains running during the busiest hours on the busiest corridors achieve a passenger density of only around 4 instead of 6 ppsm. Having regard to the actual railway operating environment, the service level of the four new domestic railway lines currently under construction, including the West Island Line, South Island Line (East), Kwun Tong Line Extension and SCL, is pitched at 4 ppsm service benchmark.

(iii) Alleviation of crowdedness

3.5.7 Overseas cities adopt various types of time-based PT fare pricing strategy, such as peak surcharges and off-peak discounts to spread peak hour PT travel demand. In Hong Kong, the MTRCL has launched a nine-month “Early Bird Discount Promotion” trial programme since September 2014. Under this programme, passengers using Adult Octopus Card will enjoy a 25% fare discount when they exit from any of the 29 core urban stations between 7:15 a.m. and 8:15 a.m. from Mondays to Fridays (except public holidays). The MTRCL will review the effectiveness of the scheme after the trial period.

(iv) Bus priority measures

3.5.8 Bus-only lanes and bus gates have been widely implemented in the territory for many years. With implementation of these bus priority measures,

bus operations, including journey speeds and reliability, could be enhanced, thereby encouraging the use of buses. At present, TD has put in place over 23 km of bus-only lanes and 16 bus gates in the territory. Whilst further bus priority measures would be explored, the Working Group acknowledges that due consideration should be given to possible impact on other transport modes (in particular other PT operators) and general road congestion. Monitoring of the performance of the existing bus priority measures and reviewing the needs for new bus priority measures will continue.

(v) *Improvement to PTIs*

3.5.9 TD has been monitoring and improving the facilities at PTIs regularly. As at October 2014, the Government owned 59 covered PTIs. These were constructed in accordance with the relevant guidelines and standards in terms of design, ventilation, illumination, etc. prevailing at the time. TD has been making efforts to enhance the waiting environment and the facilities at PTIs whenever practicable and subject to availability of resources. Between 2010 and 2013, the Government completed improvement works at 45 PTIs for this purpose. Such improvement works include, for example, improvement to ventilation/ lighting system, provision of barrier free access, installation of LCD display panels to show route information, upgrading of passenger queue railing/ guard railing, and renovation of concrete passenger walkways/ passenger islands.

(vi) *Better dissemination of information*

3.5.10 TD also encourages franchised bus companies to provide passengers with timely service information. For example, Citybus provides real-time bus arrival information on its airport routes (i.e. the “A” routes) through the company’s website and smart phones. The Kowloon Motor Bus Co. (1933) Ltd. and Long Win Bus Company have installed an estimated bus arrival time system at the Tuen Mun Road Bus-bus Interchange (“BBI”). So far, such system has proven to be reliable, although it entails considerable capital investment and operating cost. In considering whether to make wider use of this or similar systems, bus companies will take into account passenger needs and cost-effectiveness consideration.

Figure 3C: Estimated bus arrival time system at Tuen Mun Road BBI



(vii) Enhanced services for passengers with special needs

3.5.11 Other service enhancements, such as installing barrier-free and elderly-friendly features (including equipping double hand-railing at staircase on selected models), have been introduced to provide a higher degree of safety and comfort to passengers on franchised buses. The Working Group understands that the Government will continue to work with the PT operators to bring in other service enhancements.

(b) Rationalisation of bus services

3.5.12 Franchised bus is the most popular road-based PT mode. Hong Kong has developed an extensive network of bus routes over the years. However, as our railway network expands and develops, some of the bus routes have become less attractive, with low patronage in some routes during non-peak hours or even during peak hours. The large number of franchised buses with few passengers on board is a cause of road traffic congestion. Since 2013, the Government has redoubled its effort at rationalisation of bus services which aims at providing a more efficient bus network. In 2013, 15 bus routes with low passenger demand or with routings largely overlapped were cancelled or amalgamated, four bus routes were truncated and the frequency of about 100 bus routes was reduced. Resources saved were put to the introduction of seven new routes and enhancement of service for a number of others. Hence, properly implemented,

bus route rationalisation could ease traffic congestion by reducing unnecessary vehicular trips on the road. Over the past 10-year period from 2004 to 2013, the number of franchised bus has decreased from about 6 000 to about 5 800 after the implementation of bus route rationalisation over the territory.

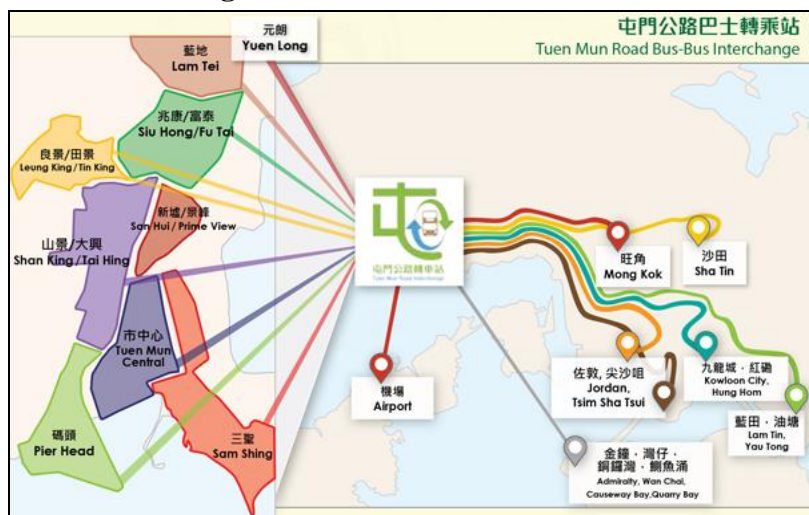
3.5.13 Every year, franchised bus companies submit RDPs comprising service adjustment proposals to the Government based on the forecast bus passenger demands. The RDPs may include proposals to introduce new routes, improve frequency and extend operating hours as well as proposals to reduce frequency, truncate routes, and cancel or amalgamate routes, etc. TD consults the relevant District Councils on their concerned RDPs before implementing the service adjustments.

3.5.14 Recently, the Government and franchised bus companies have been vigorously rationalising bus routes through an “area approach”. Under this approach, bus services are reviewed and re-organised holistically on a district basis, instead of on the basis of individual routes. A bus route rationalisation plan, devised for a particular region or district, may entail the introduction of new BBI schemes or improvement of existing ones, with more route choices and attractive fare concessions. There may also be proposals on introduction of new routes or frequency improvement on routes of high demand by making use of the resources spared from other proposals concerning frequency reduction, re-routeing, as well as cancellation or amalgamation of overlapping and under-utilised routes. To encourage more passengers to make use of the BBI schemes, the Government has also explored with the bus companies provision of attractive fare concession and enhanced interchange facilities at major locations. The Government started to implement in phases the rationalisation plans agreed with the North District and Tuen Mun since August and September 2013 respectively. The RDPs of 2014/15 included the area approach proposals for Yuen Long, Tai Po, Tsing Yi and Sha Tin districts. The plans agreed with the four districts are being implemented in phases since August 2014 for completion within first half of 2015, and it is expected that, upon full implementation of the plans, the efficiency of bus network would be further improved and the passenger demand could be better served. TD and the franchised bus companies will work with the Kowloon urban districts as the next step in the bus route rationalisation exercise.

3.5.15 Overall speaking, it has not been easy to obtain full support from the districts and the community for vigorous route rationalisation. Understandably, passengers who have to change their travelling habits, for example, by having to make a change mid-way instead of having direct point-to-point service, tend not to welcome the rationalisation proposals. It is not uncommon for rounds of discussion between the Government and the District Councils to take place before the bus route rationalisation plans, sometimes with modification, for a district could be finalised for implementation. With the implementation of rationalisation in North District and Tuen Mun, there is generally a better public understanding of the merits of bus route rationalisation and this should help garner public support for future rationalisation proposals.

3.5.16 To facilitate bus route rationalisation, TD has also been actively planning for new BBIs to enhance service efficiency. For example, the BBIs located on Tuen Mun Road (Kowloon-bound) in Siu Lam and on Tuen Mun Road (Tuen Mun-bound) in Tai Lam Kok were commissioned in December 2012 and July 2013 respectively. A total of 24 bus routes currently call at the BBIs for the convenience of residents in Tuen Mun/ Yuen Long and along Castle Peak Road. Since its opening, two bus routes have been cancelled after the rationalisation of the bus network in Tuen Mun, while passengers have a wider choice of destinations through interchanging. The Working Group notes that the BBIs on Tuen Mun Road are well received by bus passengers, with a current daily average of about 10 000 and 14 000 users for Kowloon-bound and Tuen Mun-bound respectively. In view of this promising result, the Government has been exploring with the bus companies setting up more BBIs, of smaller scale though because of site constraints, by making use of existing bus termini or stops.

Figure 3D: Tuen Mun Road BBI



3.5.17 The opening of new railways will affect the prevailing travelling pattern, thus affecting the utilisation of different PT modes. In order to better meet the changes in passenger demand and achieve better operation efficiency of the PT network, TD will implement bus route rationalisation proposals with greater vigour and on larger scale upon the planned opening of the MTR West Island Line, South Island Line (East), and Kwun Tong Line Extension, as well as the two-phased opening of the SCL in the years to come. TD normally assesses the impact of a new railway line on other PT modes and devises a PT Plan in the light of the forecast impact two to three years before the new line's opening. Under the PT Plan, service adjustments (in the form of new feeder services and route truncation, cancellation or frequency adjustments for overlapping services) for other road-based PT modes, in particular franchised bus services, will be mapped out. The relevant District Councils will be consulted of the PT Plan before it is finalised for phased implementation. At present, the district council consultation of the PT Plan for the West Island Line has been finalised for phased implementation after the commissioning of the West Island Line in December 2014. Public consultation of the PT Plan for the South Island Line (East) is underway. It is expected that a total of about 160 buses could be reduced if all the proposals in the PT Plans of the above two new railway lines were implemented successfully.

3.6 Managing road use

3.6.1 Another important aspect of the Government's work in tackling road traffic congestion is to better manage the use of road so as to maximise the efficiency of the use of the limited road space. The following paragraphs highlight the traffic management measures currently adopted by the Government.

(a) General traffic management measures

3.6.2 Economic activities in some older parts of the urban area (such as Central and Tsim Sha Tsui) have generated a lot of road-based transport activities. However, expansion of road infrastructure in these areas is severely constrained. Older developments also lack adequate internal transport facilities (e.g. car parking and internal loading/ unloading spaces) within them. Some of these areas have become particularly congested due to the large amount of kerbside

activities as motorists often make use of the nearby kerbside for loading/unloading goods, picking up and dropping off passengers, waiting and even illegal parking. Such blockage of traffic lanes has caused congestion. With the growing tourist industry in recent years, some areas are becoming overcrowded with tourist coaches boarding and alighting passengers, some of which even illegally parked for long periods while waiting for tour groups.

3.6.3 TD has been closely monitoring the situation in these particularly congested areas and takes appropriate actions whenever possible. On the operation management side, TD has been liaising with different stakeholders, such as building management offices, property owners and transport trades, to explore ways to better manage the kerbside activities. As regards tourist coach activities, TD maintains an active dialogue with the Tourism Commission and tourist trade to explore possible means to address their operational need, while minimising the disruption to traffic. Assistance from the Police would also be sought if traffic is seriously affected.

3.6.4 More specifically, TD has been devising feasible traffic management measures as far as possible to relieve congestion. Measures commonly adopted involve imposing restriction zones to prohibit kerbside activities of all or specific types of vehicles at peak hours, or banning certain vehicle types from using the concerned road sections. Some other common traffic management measures implemented in the districts are also listed below –

- (a) provide additional laybys or lengthen existing laybys to meet the need of kerbside activities, such as loading and unloading for goods vehicles, and picking up and setting down of passengers by coaches, taxis and PCs;
- (b) impose yellow box at road junctions to avoid blockages, which often cause traffic congestion in busy areas;
- (c) prohibit non-essential turning movements, and/or widen local roads to provide for additional traffic lanes to increase junction capacities;
- (d) review and fine-tune traffic signal plans at signalised junctions to maximise junction capacities and minimise traffic delays;
- (e) provide more parking spaces for coaches in or near tourist areas;
- (f) relocate and adjust the length of bus stops and taxi stands; and
- (g) provide bus-only lanes and bus gates to facilitate bus operations.

The Working Group considers that the Government should continue to review the effectiveness of these measures and pursue improvements as and where necessary.

3.6.5 While the above-mentioned traffic management measures may give more convenience to some vehicle types, they may at the same time bring inconvenience to other vehicle types. The trade-offs often involve careful balancing of interests which may not be easy to achieve. In some cases, implementation of the recommended measures faces objection from the local community and the District Councils. In addition, even when the measures are implemented, it is not uncommon that some drivers do not observe them, diminishing their effectiveness. To achieve the desired effect, the cooperation of road users in observing traffic rules is essential. Enforcement action by the Police is also necessary.

(b) Use of information technology

3.6.6 TD has been striving to improve the efficiency and reliability of the road-based transport system by developing and expanding its intelligent transport systems (“ITS”). For example, the Area Traffic Control System is used to better coordinate the operation of traffic lights within an area to minimise traffic delays at signalised road junctions, thereby improving overall efficiency. The Traffic Control and Surveillance System is used along strategic routes to cope with traffic incidents and emergencies. TD has also developed ITS to facilitate the dissemination of traffic and transport information to the general public. Apart from the availability of closed-circuit television images of critical road sections in real time over the internet, systems such as the Speed Map Panels, the Hong Kong eTransport⁵, the Hong Kong eRouting⁶, etc. are all free public services which can facilitate both PT and road users to select the transport mode or route that best suits their needs. More specifically, motorists can use them to find a faster driving route by avoiding areas experiencing traffic congestion.

⁵ The Hong Kong eTransport, which can be accessed via mobile device or website, provides users with a one-stop portal for a multi-modal PT point-to-point route search service on the Internet. The PT services covered include MTR, Light Railway Transit, franchised bus, GMB, ferry, and tram.

⁶ The Hong Kong eRouting, which can be accessed via mobile device or website, provides motorists with point-to-point driving route searching service and real-time traffic information.

Figure 3E: Hong Kong eRouting



Figure 3F: Speed map panel at Tuen Mun Road



3.6.7 TD is developing a Traffic and Incident Management System (“TIMS”), which is scheduled for completion in about early 2016. Its functions include automatic incident detection, as well as consolidation of traffic and transport contingency plans to facilitate the implementation and dissemination of traffic and transport information to stakeholders (including various Government departments, PT operators, media and the public). After completion of the TIMS, incidents which may cause road traffic congestion can be managed more effectively, and information can be disseminated to the public more efficiently.

(c) Coordination of road works

3.6.8 Road works in Hong Kong are common and unavoidable. While there is a genuine need for road works (please refer to **paragraphs 2.3.13 to 2.3.15**), some of them do sometimes cause a reduction of road space, resulting in some instances in road traffic congestion. The Working Group notes that Highways Department (“HyD”), in coordination with TD and the Police, has put in place an XP system to better manage and coordinate road works and to ensure that they will not take up unnecessary road space, adverse traffic impact or nuisance to the public. Under this system, before commencement of any road works, the proponent shall apply for an XP from HyD and obtain traffic advice from TD and the Police. When the works are in progress, HyD carries out regular inspection to ensure that the road works comply with all XP conditions. TD and the Police also closely monitor the traffic conditions and, where necessary, will request the permittees to appropriately modify their temporary traffic management (“TTM”) schemes to further minimise the traffic impact. **Annex 3** summarises the details of the overall mechanism.

(d) Review on speed limit of roads

3.6.9 Raising the speed limits of some road sections is an option to enhance the efficiency of traffic flow. However, road safety considerations are crucial. To ensure the speed limits on roads are commensurate with the prevailing traffic conditions, TD regularly carries out speed limit reviews on roads in Hong Kong. The reviews take into account various factors, including accident rate, prevailing vehicle speeds, road surface characteristics, length of the road sections, etc. A working group, comprising representatives from TD, the Police, the Hong Kong Automobile Association and the Institute of Advanced Motorists Hong Kong, has been set up to discuss and agree on the findings of the periodic reviews.

3.7 Way forward

3.7.1 The Working Group recognises the Government’s on-going efforts to manage road traffic congestion through improving transport infrastructure, expanding and improving the PT system, and managing road use. It notes that the Government would continue to pursue these on-going measures, review their effectiveness and explore further improvements.

3.7.2 The Working Group notes that, as explained in **Sections 3.4 – 3.6** above, it is unavoidable that the Government will face different kinds of challenges when going about its tasks, including physical, environmental and social constraints against building more roads, diversified views from relevant stakeholders on the proposed traffic management measures, etc. Not all of the challenges can be as successfully addressed in all cases. To that extent, the effectiveness of the on-going measures in alleviating road traffic congestion is constrained. There is a need for the Government to consider applying other measures or strengthening the existing ones. The focus of the Study is therefore to identify additional measures which can work in conjunction with the on-going measures mentioned in this chapter. The Working Group has studied a number of possibilities from which it has selected 12 measures for recommendation to the Government. The details of these recommended measures are set out in **Chapter 4**.

* * * * *

Chapter 4 – Recommendations

4.1 Overview

4.1.1 This Chapter explains the needs and urgency to tackle road traffic congestion and the resulting benefits. It also sets out the Working Group's recommended measures, the considerations that have been taken into account in shortlisting these measures, and the suggested implementation timeframe.

4.2 Needs and urgency for additional measures

4.2.1 The Working Group sees an urgent need to tackle road traffic congestion. Hong Kong's vehicle fleet size has been growing at an alarming rate. Over the past ten years, the number of vehicles increased by 30% from 524 000 in 2003 to 681 000 in 2013. Such a growth in vehicle fleet size worsened the traffic situation. The average car journey speed in urban areas dropped by about 11% from 25.6 km/h in 2003 to 22.7 km/h in 2013.

4.2.2 In particular, the car journey speeds on some major traffic corridors during weekday peak hours are recorded to be around or even lower than 10 km/h, such as Chatham Road North (from San Lau Street to Hong Chong Road), Waterloo Road (Ferry Street to Argyle Street), Des Voeux Road West (from Western Street to Connaught Road Central) and Chater Road (from Pedder Street to Murray Road). This is not much faster than the average walking speed of an adult at 4 to 5 km/h.

4.2.3 It has also become increasingly difficult for road users to plan their journeys because of the uncertainty of travel time for the same route. Certain road sections are normally not congested, but could become seriously jammed sporadically. The reason is that the road sections concerned are almost nearly fully used. As such, any small increase in vehicular flow can easily lead to traffic congestion. The uncertainty means that road users will have difficulties in planning their journeys to arrive on time. Depending on the level of traffic congestion, a 20-minute journey may easily take 40 to 60 minutes.

4.2.4 If we allow the vehicle fleet to continue to grow at the present rate of 3.4% (as at September 2014), the total number of vehicles would reach nearly one million in the next 10 years. In other words, there will be some 270 000 (+40%) more vehicles. On the other hand, given the social, physical and environmental constraints on constructing new roads, the expected rate of increase in road length up to 2020 will only be about 0.4% p.a. (**paragraph 2.2.13** refers). With many more cars sharing the limited road space, there will certainly be slower journey speeds and greater uncertainty in journey planning. Our economy and living quality will be adversely affected.

4.2.5 From the environment point of view, more vehicles on the road mean more emission by air pollutants and more noise pollution, causing health concerns. The levels of respirable suspended particulates and NO₂ at the roadside in Hong Kong have remained high over the years. Motor vehicles are the main source of these pollutants at street level and the second largest source of greenhouse gas emissions in Hong Kong. From 2009 to 2013, NO₂ levels at roadside have increased by 9%, resulting in an increase in the number of days with the roadside air pollution index reaching the “very high” level (i.e. index exceeding 100) in recent years.

4.2.6 The Working Group’s sense of urgency to tackle traffic congestion is shared by many road users. According to the POS results, about 70% of both the public and drivers agreed that there was a need to control the growth of PCs.

4.2.7 Hong Kong cannot afford to sit still and let the worsening traffic affect our quality of life.

4.3 Benefits

4.3.1 The benefits of an improved traffic condition may be difficult to accurately quantify, but can easily be felt by all road users. It would mean less waiting time for both passengers and motorists. With shorter travelling time, there will be greater mobility. With less time spent on the road, every road user, regardless of their age, social status and occupation, would have greater flexibility to plan their itineraries and pursue their personal interests. For example, with less traffic time spent on going to work, our working population could have more room to pursue work-life balance.

4.3.2 The benefits are not only confined to commuting and travelling on the road. With less congestion and fewer cars on the road, our environment could be improved. For the logistics industry, there will be savings in operating costs (such as fuel costs), as less time is required to deliver goods and services. Everyone can better plan their business and personal itineraries. Everyone stands to benefit.

4.3.3 To give some rough estimates on the benefits of improved traffic condition: if we do nothing now, with an assumption that the current PC growth rate of about 4.5% p.a. is to continue, it is estimated that the average journey speed in urban areas would be decreased by about 15% in 10 years' time, with the amount of greenhouse gases generated increased by more than 20%. If our city is able to slow down the PC growth rate from about 4.5% p.a. to, say 1.5% p.a., both the estimated reduction in average journey speed in urban areas and the estimated increase in greenhouse gases caused by vehicle growth can be lessened by about one-half.

4.3.4 Spatial constraints in Hong Kong impose great difficulty in providing more parking spaces (**paragraph 2.3.5** refers). In the developed urban areas, the problem is more acute because the Government can only take the opportunity when there are new developments or redevelopments to provide more parking spaces, and even when such an opportunity arises, it would take years to materialise a limited number of additional parking spaces. The Working Group notes that the scope to supply adequate parking space in urban area would be limited. Managing car growth could, to a certain extent, address the issue.

4.3.5 The Working Group is acutely aware that some traffic congestion relief measures to bring about the above benefits are not without cost. These measures may entail inconvenience and even extra costs to some road users. However, the Working Group wishes to emphasise that with less congestion, Hong Kong as a whole will stand to benefit, and all road users will in turn benefit from shorter travel time and better environment.

4.4 Recommendations

4.4.1 The Working Group has considered a host of measures to address road traffic congestion in Hong Kong. In shortlisting the recommendations, the Working Group has, in general, taken into account whether the proposed measures are proven or anticipated to be effective in containing congestion at a territorial level, whether the proposed measures are acceptable to the public at large, and how the proposed measures would affect the relevant stakeholders.

4.4.2 The Working Group has further divided the proposed measures into short, medium and long term. Broadly speaking, short-term measures, if taken forward, may be implemented within one to two years, whereas medium term measures may take up to three to four years to implement. Long-term measures may require further study and hence a longer implementation timeframe.

4.5 Short and medium-term measures

A. Managing the PC fleet size

(a) *Raise PC's FRT and ALF*

4.5.1 The continuous increase of traffic density on roads, if unchecked, will further worsen congestion. The difficulty in accommodating the parking needs of the increasing number of cars, especially when land is in scarcity, is also of grave concern.

4.5.2 Indeed, according to the POS results, “too many vehicles on roads” is perceived as the most important cause of road traffic congestion.

4.5.3 Instead of restraining the growth of all vehicles, the Working Group considers that a more targeted approach aiming at PCs should be adopted on the following grounds –

- (a) PCs account for about 70% of the vehicle fleet in 2013 and have been a major contributor to the overall vehicle growth. From 2003 to 2013, the total number of PCs increased by 40% whilst the growth of other types of vehicles was relatively modest (**paragraphs 2.2.5 and 2.2.6**

refer). As of September 2014, the growth rate of the PC fleet stood at an alarming 4.6% p.a.;

- (b) PC is a much less efficient passenger carrier. The carrying capacity of a PC is of no comparison to a PT carrier, yet the PC fleet occupies a large amount of road space. More specifically, buses and light buses carry about 71% of the total daily road-based passenger boardings and only take up about 5% to 25% of the total traffic flow on major roads¹. By contrast, PCs account for about 40% to 70% of the total traffic flow on most of these major roads, but only carry 16% of the total daily road-based passenger boardings (see **paragraphs 2.2.10 and 2.2.11** for details); and
- (c) PCs are mainly for private use and are not indispensable in most circumstances, given Hong Kong's generally well-developed PT system. By contrast, goods vehicles and PT play a more important role in moving goods and people in our community. According to the Travel Characteristics Survey 2011, close to 90% of the public rely on PT for commuting.

The Working Group notes that according to the POS results, over 60% of the general public and over 70% of drivers consider that PCs should not be given priority to use the roads.

4.5.4 Based on past experiences, increases in FRT² and ALF³ are direct and effective means to curb PC growth. While an increase in FRT will discourage the acquisition of PCs, increase in ALF will add cost to owning an existing one. In 1982, a host of fiscal measures was implemented, including doubling of FRT, trebling of ALF and doubling of fuel tax. Nine to twelve months after the increases, the growth rate of licensed PCs reduced sharply by an average of about

¹ The figures are based on data from 20 major roads during morning peak hours in 2013.

² FRT is a tax payable upon the first registration of a motor vehicle, including new and imported second-hand ones. Currently, the FRT for a PC ranges from 40% to 115%, and it is linked to and varies with the incremental taxable value of a PC in four bands.

³ ALF is a tax-loaded fee payable on an annual basis for licensing a motor vehicle in order that it could be driven on roads in Hong Kong. Currently, ALF for a PC ranges from \$3,815 to \$11,215 depending on the engine capacity. A fuel levy of \$1,460 is also added to ALF for diesel PCs.

18% p.a., from about 10%⁴ p.a. to about -8%⁵ p.a. In 1991, FRT was increased by about 16%, together with an increase of ALF by 10%. Nine to twelve months after the increases, there was an overall drop in the average annual growth rate of licensed PCs from 9.4%⁶ by about 1.7% to 7.7%⁷. More recently in 2011, the FRT was increased by about 15% but without a parallel increase in ALF. Nine to twelve months after the FRT increase, the average annual growth rate for ordinary petrol licensed PCs was reduced from 3.6%⁸ by about 1.3% to 2.3%⁹. However, on this occasion, the overall impact to the growth rate of all licensed PCs was severely dampened by the additional concession given to EFPPCs (**paragraphs 4.5.7 to 4.5.9** refer).

4.5.5 Due to the one-off nature of FRT increase and the fact that ALF only constitutes a relatively small percentage of the total average monthly expenses¹⁰ in maintaining and operating a PC, implementing either of these fiscal measures alone will be less effective and long-lasting as anticipated than if both measures were introduced together. Indeed, ALF has not been adjusted since 1991 while the CCPI¹¹ has increased by about 80% between 1991 and 2013. To manage the growth of the PC fleet¹² more effectively, the Working Group recommends the Government to increase both the FRT and ALF for PCs at the same time.

⁴ This figure is the average value between January 1982 and April 1982.

⁵ This figure is the average value between January 1983 and April 1983.

⁶ This figure is the average value between November 1990 and February 1991.

⁷ This figure is the average value between November 1991 and February 1992.

⁸ This figure is the average value between October 2010 and January 2011.

⁹ This figure is the average value between October 2011 and January 2012.

¹⁰ According to the Travel Characteristics Survey 2011, ALF only constitutes about 9% of the total average monthly expenses in maintaining and operating a PC.

¹¹ CCPI measures the changes over time in the price level of consumer goods and services generally purchased by households. It does not represent the change of purchasing power of a car owner over time.

¹² The Working Group is aware that a person's decision to buy and keep a PC will be affected by different factors, including personal need and preference, the overall economic situation, car price in real terms (as affected by currency fluctuation and household income), property market and investment opportunities, etc. Many of these factors fluctuate over time and so it would be difficult to accurately predict consumer behavioural change.

4.5.6 In 2011 the FRT was increased by about 15%, but partly for the reason given in **paragraph 4.5.8** below, the effect was greatly eroded and the current growth rate of PC is already at a very high level of about 4.5% p.a. Hong Kong is now facing a much bigger PC fleet size as compared to 2011. In order to achieve a significant reduction of the growth of PCs and to achieve a more lasting impact, the Working Group considers that there may be a need to impose an FRT increase higher than that of 2011, and that the increase should be equally applicable to EFPPCs. For the proposed ALF increase, the Working Group notes that ALF has not been adjusted for over 20 years and recommends the Government to consider its increase by taking into consideration at least the inflation during the period.

(b) Tighten up standards for EFPPCs

4.5.7 EFPPCs refer to petrol PCs with lower emissions and higher fuel efficiency. The main purpose of granting FRT concession to EFPPCs is to encourage vehicle buyers to purchase EFPPCs as compared to ordinary petrol PCs should they find car purchase necessary. To qualify as an EFPPC, a PC has to meet prescribed emission standards and fuel efficiency targets, which are annually reviewed by the Environmental Protection Department to ensure that the tax concession restricts to those PCs with comparatively outstanding environmental performance. As at end of October 2014, there were 35 EFPPC models.

4.5.8 When the EFPPC scheme was first introduced in 2007, the FRT concession was 30% (with a cap at \$50,000 per car). In February 2011, FRT for PCs was increased by 15% but at the same time concession for newly registered EFPPCs increased from 30% (with a cap at \$50,000 per car) to 45% (with a cap at \$75,000 per car). This has more or less nullified the FRT increase for EFPPCs. Many potential buyers switched to buy EFPPCs, leading to an average annual growth rate of about 64%¹³ for EFPPC nine to twelve months after the FRT increase¹⁴. This is in sharp contrast to the average growth rate of

¹³ This figure is the average value between October 2011 and January 2012.

¹⁴ In April 2013, EPD tightened the standards for EFPPCs and hence reduced the number of qualifying models. The growth of EFPPCs has slightly slowed down. As at September 2014, EFPPCs constitute about 18% (from 1 January 2014 to 30 September 2014) of newly registered petrol PCs.

ordinary petrol PCs, which slowed down from 3.6% p.a.¹⁵ before the FRT increase to 2.3% p.a.¹⁶ nine to twelve months after the FRT increase.

4.5.9 The Working Group considers that from a congestion control point of view, an EFPPC is no different from an ordinary PC. Further, in environmental terms, EFPPCs still contribute to roadside air pollution as they are not with zero emission. The Working Group thus recommends the Government to continue to tighten up the qualifying standard for EFPPCs and avoid raising the FRT concession further. There may even be a case to abolish the EFPPC scheme and make FRT concession only available to electric vehicles¹⁷, which have zero emissions.

(c) Raise “fuel levy” for diesel PCs

4.5.10 In 1982, the fuel tax on petrol was increased by \$0.7 per litre, but there was no corresponding increase of fuel tax on diesel after due consideration of the operation costs of PT. Noting that diesel PCs would inadvertently be benefitted from such a fuel tax arrangement, \$1,000 was added to the ALF for diesel PCs in the form of a “fuel levy” to “neutralise” the fuel tax gain. The amount of “fuel levy” was subsequently adjusted in tandem with the increases in ALF from 1987 to 1991.

4.5.11 Since 2008, the fuel tax for Euro V diesel has been reduced to zero to facilitate the commercial vehicle trade and to encourage them to use cleaner fuel. The policy intention of reducing the duty rate on diesel was clearly not to benefit PCs.

4.5.12 Nonetheless, given that diesel is tax free while the fuel tax for petrol is currently set at \$6.06 per litre, a PC owner could achieve cost savings if he/ she opts to use a diesel PC instead of a petrol one. Based on the amount of fuel consumed by reference to the average PC mileage as obtained in the Travel Characteristics Survey 2011, it is estimated that the tax savings achieved by using a diesel PC would be about \$4,720 per year. The current level of “fuel levy” in

¹⁵ This figure is the average value between October 2010 and January 2011.

¹⁶ This figure is the average value between October 2011 and January 2012.

¹⁷ Electric vehicles are currently exempted from paying FRT until 31 March 2017.

ALF at \$1,460, which has not been adjusted since 1991, is no longer sufficient to “neutralise” the fuel cost savings gained for using diesel PCs.

4.5.13 Although the current number of licensed diesel PCs only accounts for a small percentage of the total PC fleet, the growth rate in recent years has become a potential cause for concern. For the past year, it registered a 57% growth, from 1 974 in August 2013 to 3 107 in August 2014. There are also more models at various price ranges to cater for the market need.

4.5.14 The Working Group is mindful that any proposed increase in ALF will be offset by recurrent fuel cost savings if motorists opt to use diesel PCs, thus diluting, if not nullifying, the desired effect to manage PC growth. As such, the Working Group recommends that the diesel levy should be revised upwards accordingly to reflect the possible fuel cost savings.

4.5.15 The Working Group considers that the legislative amendments to effect the above recommendations concerning PC fleet control could be introduced into the Legislative Council (“LegCo”) within a comparatively short timeframe and hence recommends these three measures as short-term measures. While the POS results show that close to half of the general public and drivers surveyed accept the general policy of increasing the cost of owning or using PCs, the Working Group will not underestimate the difficulties in obtaining the support from the public and LegCo to endorse the proposed increase. Certain stakeholders would undeniably be affected financially. Nonetheless, the Working Group would like to urge the public and our lawmakers to lend their support to these fiscal measures, which have been proven effective in curbing vehicle growth and easing road traffic congestion. The Working Group is certain that our community as a whole would benefit by reducing the number of vehicles on the road.

B. Efficient use of limited road space

4.5.16 Containing the growth of PC fleet is to alleviate road congestion through reducing the demand on our limited road space. On the supply side, in view of the limitations in expanding our road network, the Working Group considers that it is of equal importance to put the available road space to best use through traffic management measures. The Working Group notes that the Government has already implemented a host of on-going traffic management

measures to this end, which are detailed in **Chapter 3**. Nevertheless, the Working Group considers that the following two additional measures should be adopted to further enhance the efficiency in using road space.

(a) Start planning for a congestion charging pilot scheme

4.5.17 The Working Group considers that a very effective way to tackle congestion in a particularly congested area is to put in place a congestion charging (or ERP) scheme.

4.5.18 ERP is a traffic management tool aiming at reducing congestion at a designated area by adopting the “user pays principle”, i.e. charging motorists for entering the designated area at busy times of the day and encouraging travellers to switch to PT or change their routes. With less traffic entering the designated area, journey speeds can be increased. As an added benefit, air and noise pollution associated with the use of vehicles will be reduced.

4.5.19 Hitherto, the Government has conducted three studies on ERP to address road traffic congestion. Due to changes in economic situation at the time of the studies, privacy concerns and the lack of community consensus, ERP was not taken forward. One of the major findings of previous studies is that a road pricing scheme can be implemented equitably and effectively only if alternative routes which have adequate capacity for motorists to bypass the charging zone are available. The Government has indicated that with the targeted commissioning of the CWB, motorists whose destination is not Central District will be provided with an alternative route to bypass the charged areas, and that the Government would then in a better position to consider the possibility of ERP application in Central District.

4.5.20 The Working Group notes that while the concept of ERP remains a novel one for many road users in Hong Kong and there is not yet a consensus¹⁸ over its use, ERP or similar charging schemes have already been successfully implemented in a number of overseas cities, e.g. London, Stockholm, Gothenburg and Singapore. The Working Group considers that the Government should start planning for an ERP scheme by developing a conceptual plan for engagement with the public and relevant stakeholders. The conceptual plan

¹⁸ As shown in the POS results, there is a similar degree of support for and objection against ERP.

could cover the scheme objective, charging zone, charging period, charging rates, charging technology, impact on various activities (such as PT operations, commercial activities, and movement of residents within the charging zone), as well as whether and how exemptions and/ or concession should be provided, etc. The Working Group acknowledges that public consultation is necessary and the Government may revise the details of the scheme in the light of feedback received.

4.5.21 Regarding the designation of a charging zone, the Working Group agrees that the Central District could be a suitable location for a pilot scheme, based on the following considerations –

- (a) Central District is the central business district of Hong Kong. It plays a strategic and symbolic function in our society;
- (b) severe road congestion often occurs on the main road sections in Central, sometimes causing grid-lock in the surrounding road networks, affecting neighbouring districts; and
- (c) the commissioning of CWB will provide an alternative route for motorists to bypass the charging zone.

4.5.22 In planning for a possible ERP pilot scheme in the Central District, the Working Group considers that the Government should explore complementary measures to facilitate road users, e.g. introducing shuttle buses to run circular routes in the Central District to help reduce the number of vehicles entering the area. The Working Group notes that the operation periods and routings for the shuttle bus should be carefully drawn up in order to attract patronage without worsening the traffic condition. Financial viability of the shuttle bus operation also requires careful examination.

4.5.23 As the implementation of an ERP scheme is not straightforward, sufficient time must be allowed for the Government to fully engage the public before the launch of any scheme. As such, the Working Group suggests the Government to engage the public as soon as possible for the planning of an ERP scheme, recognising that it would take longer time to conduct detailed planning for the implementation of the scheme.

(b) Increase meter parking charges

4.5.24 Currently, there are some 18 200 on-street metered parking spaces¹⁹ in Hong Kong; these are intended for short-term parking only. Motorists requiring parking for a longer period of time should use off-street car parks. The Working Group understands that it is the Government's policy objective to maintain a 15% vacancy rate for on-street parking spaces in an area at any time to meet motorists' short-term need.

4.5.25 As metered parking is more convenient and in most cases much cheaper than nearby commercial car parks, it is not uncommon for vehicles to circulate on roads in busy areas looking for on-street parking. Sometimes, some motorists would even double park for a prolonged period to wait for on-street parking spaces, such activities cause obstructions to normal traffic flow. This is certainly not an efficient and effective use of our limited road space.

4.5.26 The maximum fee for metered parking is \$2 per 15 minutes (equivalent to \$8 per hour)²⁰, as stipulated in the Road Traffic (Parking) Regulations (Cap. 374C). This maximum fee has been in force since 1994, and has not been adjusted since then.

4.5.27 In 1999, the Government proposed to increase the maximum fee of \$2 per 15 minutes to \$4 per 15 minutes. However, the relevant legislative amendment proposal was voted down by LegCo. While LegCo noted the Government's explanation that one of the objectives of the proposed increase at that time was to help achieve maintaining a 15% availability of metered parking spaces, some LegCo members were concerned about the possible knock-on effect of the proposal on the charges in private car parks.

¹⁹ There are about 15 250 on-street metered parking spaces for PCs/ vans, about 2 300 for goods vehicles and about 630 for buses/ coaches.

²⁰ While the statutory ceiling of parking fees is \$2 per 15 minutes, the fees for parking meters are determined having regard to a host of factors including the parking demand, the location and public sentiments. For example, for parking spaces in more remote locations or with lower utilisation, a lower fee (such as \$2 per 30 minutes) will be charged.

4.5.28 The Working Group notes that charges in private car parks have increased manifold despite the fact that the metered parking fee has remained the same for the past 20 years. Indeed, the CCPI increased by 40% from 1994 to 2013.

4.5.29 Given the very low current fee level (\$8 per hour at the maximum), the Working Group considers that there is a case to raise on-street metered parking charges, in order to discourage motorists from circulating/ double parking on roads waiting for metered parking spaces. This will have the added benefit of discouraging long-term parking at metered parking spaces.

4.5.30 The Working Group considers that the Government could introduce the necessary legislative amendments into LegCo within the coming year and hence recommends this as a short-term measure.

C. Stringent penalty and enforcement of traffic offences

4.5.31 Effective enforcement against congestion-related offences is indispensable in ensuring that our road space is put to good use. Given its importance, the subject on traffic offence penalty and enforcement is discussed separately under this section.

4.5.32 Currently, enforcement against traffic offences is performed by police officers and traffic wardens, both under the management of the Police. Statistics-wise, the number of fixed penalty tickets issued for congestion-related offences increased by 98%, from about 524 000 in 2003 to about 1 035 000 in 2013²¹. The bulk of these tickets was issued against illegal parking, from about 506 000 in 2003 to about 1 020 000 in 2013 (registering an increase of 100%).

4.5.33 Despite the increase in the number of fixed tickets issued, there is a general perception that enforcement against congestion-related offences has been rather lenient, resulting in the proliferation of contravention, thus aggravating road traffic congestion.

²¹ The statistics here show the number of fixed penalty tickets issued for offences under the Fixed Penalty (Traffic Contraventions) Ordinance (Cap. 237), and offences of “Unlawfully entering yellow box junction”, “Loading/ unloading goods in a restricted zone” and “Picking up/ setting down passengers in a restricted zone” under the Fixed Penalty (Criminal Proceedings) Ordinance (Cap. 240).

4.5.34 The Working Group appreciates that the strength of enforcement has been constrained by various factors: manpower resources of the Police have been drained to other duties of competing priorities, public expectation on enforcement work has grown tremendously in recent years, and the level of fixed penalty has lost its deterrent effect, etc.

4.5.35 The Working Group recommends adopting the following measures (ranging from short to medium term) to strengthen enforcement –

- (a) enhance publicity and education efforts to promote compliance with traffic rules and regulations;
- (b) raise the fixed penalty charges for congestion-related offences to restore the deterrent effect;
- (c) adopt a stricter approach and seek additional resources to enforce congestion-related offences by the Police; and
- (d) make further use of information technology in enforcement.

(a) *Step up education and publicity*

4.5.36 The Working Group considers that a more fundamental way to bring about law-abiding behaviour of road users is through continuous education and publicity. Although the effects may not be immediate, the Working Group trusts that education and publicity efforts would bring a lasting impact – as the saying goes, “sow a thought and you reap an action, sow an act and you reap a habit”.

4.5.37 In recent years, the Road Safety Council²² has been conducting road safety campaigns under different themes, namely “anti-drink driving”, “anti-drug driving”, “cycling safe”, “elderly pedestrian safety” and “driving attentively”. Messages are disseminated through various channels, e.g. announcements of public interests through television and radio broadcasting, banners on flyovers,

²² The Road Safety Council is a government advisory body consisting of government officials and community members. It is responsible for formulating road safety publicity and education strategies, and organising road safety campaigns to sustain public awareness and compliance with safety rules on the road.

advertisements on bus bodies and MTR stations, stickers on parking meters, bulletins, websites and education programmes.

4.5.38 The Government is recommended to enhance its publicity and education efforts. Two key messages should be promoted. First, road users, property owners, business operators, LegCo and District Council members and the Government should all make a joint effort to alleviate traffic congestion. Second, even though some congestion relief measures may entail inconveniences, even financial consequences to certain quarters of the community, it is nonetheless for the benefits of the whole society. More details are set out in **Chapter 5**. The Working Group considers that education and publicity efforts could be stepped up quickly; it thus recommends this as a short-term measure.

(b) Restore deterrent effect of fixed penalty for congestion-related offences

4.5.39 The current fixed penalty charges are set at \$320 or \$450 for congestion-related offences, such as illegal parking, loading/ unloading goods or picking up/setting down passengers in restricted zones, etc. These offences are set out under the Fixed Penalty (Traffic Contraventions) Ordinance (Cap. 237) and the Fixed Penalty (Criminal Proceedings) Ordinance (Cap. 240). Such levels have not been adjusted since 1994. While we note that the costs of living vary among different cities, our city's penalty levels are comparatively lower than some overseas cities²³. The Government's last attempt to amend the law to raise the penalty level in 1999 was not approved by LegCo.

4.5.40 From 1994 to 2013, the CCPI increased by about 40%. The deterrent effects of fixed penalty charges have no doubt been gradually eroded over time due to inflation and the increase in income level. Indeed, the Working Group notes that some motorists opt for personal convenience and blatantly park illegally on busy roads, turning a blind eye to the traffic obstruction caused. To restore the deterrent effect of the fixed penalty and to catch up with inflation over the years, the Working Group considers that Government should raise the fixed penalty charges by at least 40%.

²³ In the cases of London, Sydney and New York, the fixed penalty charges for parking and congestion related offences vary with the severity of contraventions. For more severe offences which would likely cause obstruction to traffic (e.g. double parking, disobeying "no stopping" restrictions), the fixed penalty in London is £130 (about \$1,600), in Sydney AUS\$242 (about \$1,600) and in New York US\$115 (about \$890).

4.5.41 To further strengthen the deterrent effect, the Working Group has examined the following options –

- (a) introducing a tier system of fixed penalty with heavier penalty for repeated offenders; or
- (b) imposing penalty points under the Driving-Offence Points System²⁴ for contravention against congestion-related offences. The Working Group notes that Singapore has put in place a “Driver Improvement Points System”, which is similar to our Driving-Offence Points System, whereby offenders of certain congestion-related offences will be imposed with demerit points.

4.5.42 Having carefully examined the pros and cons of the above two options, in particular the possible strong concerns of the commercial transport operators and the need to study in greater detail the related operational arrangements, the Working Group considers that the Government should first raise the fixed penalty charge. In case the deterrent effect of the fixed penalty system is still not strong enough, the Government could then review the need to pursue other measures (including the two options in **paragraph 4.5.41** above).

4.5.43 The Working Group considers that the Government could introduce into LegCo the necessary legislative amendments to raise the fixed penalty level within the coming year, and hence recommends this as a short-term measure.

²⁴ This system is designed to deter habitual traffic offenders and to improve standards of driving in order to reduce the accident toll. When drivers commit traffic offences connected with road safety (listed in the Schedule of the Road Traffic (Driving-offence Points) Ordinance (Cap. 375)), in addition to the penalties, they will incur driving-offence points that ranges from three to 10. When drivers incur 10 or more points within two years, they would be required by law to attend a Driving Improvement Course. When drivers incur 15 or more points within two years, they can be disqualified from driving by a court from three months to six months.

(c) Strengthen enforcement action

4.5.44 The Working Group notes that the Police have recently revised the Selective Traffic Enforcement Policy (“STEP”)²⁵ to take more stringent enforcement action against double parking. Frontline police officers have been directed that they may now take enforcement action against drivers causing obstruction by double parking, without the need to issue a verbal warning even if the driver is at the wheel. The Working Group welcomes such move.

4.5.45 To further step up enforcement, the Working Group understands that extra manpower and financial resources will be required. In particular, there is a diversion of police resources arising from the changes in social conditions in recent years. As a result, enforcement actions against congestion-related offences might not be of the highest priority amid the many police duties.

4.5.46 Despite the above, the Working Group urges the Police to consider how enforcement could be further strengthened. In some particularly congested areas, the Police should take enforcement action which has greater deterrent effect. For example, where appropriate, consideration could be given to issue fixed penalty tickets without any prior warning.

4.5.47 The Working Group notes that the serving number of traffic wardens may sometimes fall short of the establishment because of the lapse between recruitment cycles. Action has been taken by the Police to shorten the duration between the recruitment cycles so as to maintain the traffic warden cadre at its full strength as far as possible. The Working Group considers that the possibility of expanding the establishment of the traffic wardens should also be explored.

4.5.48 The Working Group sees the urgency to step up enforcement, and hence recommending this as a short-term measure.

²⁵ STEP sets priorities for traffic enforcement, which is updated and audited on a regular basis. The primary aim is to enhance road safety through prevention of traffic accidents and maintenance of smooth traffic flow.

(d) Make more use of information technology in enforcement

4.5.49 The Working Group recognises that there is a limit on how much additional manpower resources the Police could allocate to tackle road traffic congestion. There is therefore a need to make more use of information technology to streamline the enforcement process. The Working Group understands that the Police are running a trial scheme to issue fixed penalty tickets through an e-ticketing system. The Working Group notes that the Government will take forward the legislative amendments to effect the e-ticketing system, subject to a successful trial run and the availability of resources. The system is expected to be rolled out in 2017. The Working Group considers it a move in the right direction.

4.5.50 Another area where the use of technology could be further explored concerns the enforcement of a road marking commonly known as the “yellow-box junction”²⁶. The Working Group notes that motorists’ failure to comply with this road marking has sometimes caused traffic congestion at junctions. It would be useful if technology could be applied to help enforce against obstruction at yellow-box junctions. Nonetheless, the development of yellow-box cameras technology for enforcement purpose is still at a preliminary stage and its application is not yet tested in other parts of the world. The Working Group considers that the Government could engage the information technology sector or tertiary institutions to explore and develop the use of yellow-box cameras, having regard to local circumstances.

4.5.51 Given the time required to explore the feasibility of various technologies, the Working Group recommends this as a medium to long-term measure.

4.5.52 The Working Group recognises that most of the short and medium-term recommended measures entail financial consequences. These measures are considered necessary in view of the worsening traffic congestion. The other alternatives explored are not as direct and effective in containing car growth and ensuring efficient use of road space. The Working Group opines that the Government must strengthen education and publicity efforts to complement these

²⁶ A motorist should not drive a vehicle into a yellow-box junction unless he/ she will be able to drive the vehicle wholly out of the yellow-box junction immediately. The purpose is to avoid any blockage of the road junction by vehicles.

measures. The Working Group also proposes a number of long-term measures for the Government to study further.

4.6 Long-term measures

(a) *Review parking policy and disseminate real-time information on parking vacancies*

4.6.1 The Government's policy on parking provision is to provide sufficient parking spaces to meet demand, but at a level which will not unduly attract potential passengers to opt for PCs in lieu of PT. For example, for developments that are close to railway stations and major PTIs, parking spaces required to be provided by the developer will be fewer.

4.6.2 Generally speaking, lower parking provision will increase the inconvenience of owning and using a vehicle. As far as PCs are concerned, arguably it may be possible to restrain car growth through a conscious under-provision of parking spaces, in particular at home end.

4.6.3 The Working Group notes that parking spaces are essential to those who need to drive, as well as to the operation of commercial transport operators. At a practical level, under-provision of parking spaces may lead to illegal parking, which may cause obstruction to traffic flow and pose a further strain on police enforcement resources. Socially, reducing the supply of parking spaces may lead to speculation. The Working Group notes that the prices of parking spaces are already not low in certain districts of Hong Kong. Further increase in the prices of parking spaces might result in social grievances. Indeed, the POS results show that 55% of the general public and 84% of drivers object to reducing the supply of parking spaces.

4.6.4 As such, it is most important to find out the optimum level of parking provision to restrain car growth without bringing too many adverse consequences. The Working Group considers that the Government should conduct a detailed review of the parking policy, in which various stakeholders and the general public should be fully engaged.

4.6.5 To reduce the need for motorists to circulate on roads looking for available parking spaces and causing more congestion, the Working Group considers that the Government should examine how to provide motorists with real-time information on the vacancies in off-street car parks in nearby areas. Given that the majority of public car parks are owned and operated by the commercial sector, the Working Group appreciates that the Government would need to solicit the cooperation from relevant operators who may not be willing to share commercially sensitive information. Nonetheless, the Working Group would like to urge the Government to continue exploring different ways to garner the operators' support.

(b) Encourage on-street loading and unloading outside peak hours

4.6.6 Hong Kong is a vibrant city with big and small shops opening for long hours throughout the year and in every street corner. The need for loading and unloading of goods is immense. However, many old buildings which house these shops and businesses were built according to the then prevailing building standards which did not mandate the provision of internal loading and unloading facilities. As such, the loading/ unloading of goods have to be done on-street.

4.6.7 At the same time, given our limited road space, it is difficult to make available adequate and suitable on-street loading/unloading bays to accommodate these needs, particularly in urban areas. Deliveries of goods for different businesses are sometimes bundled up at a certain time of the day (e.g. during peak hours) to meet business needs. As a result, prolonged or illegal loading and unloading activities obstruct traffic flow, further aggravating the congestion problem. The problem is more acute in some parts of the urban areas, where there are more old buildings which lack internal loading/ unloading facilities and where the roads are narrow.

4.6.8 The Working Group recognises that on-street loading and unloading activities are an important component of our economy. The question is how to minimise the impact of these economic activities on road traffic, which will in turn achieve cost saving and efficiency in goods delivery as delivery vehicles could spend less time on the road and deliver to more shops — a win-win solution.

4.6.9 The Working Group notes that some overseas cities like Sydney and London encourage loading and servicing to take place outside peak hours. This can help ease congestion in the central business district.

4.6.10 As a long-term measure, the Working Group considers that the Government should examine how to encourage and facilitate local businesses to carry out more on-street loading and unloading outside peak hours. In particular, this arrangement could be built in as a feature of the ERP pilot scheme (**paragraphs 4.5.17 to 4.5.23** refer). For example, differential charging for peak and non-peak hours may provide an incentive for operators to switch to off-peak delivery within a charged zone.

(c) Provide more PnR facilities

4.6.11 PnR car parks allow motorists to drop off their cars at transport hubs to switch to PT. These car parks are usually located at the suburbs or fringe of city centres, thus reducing the amount of traffic entering the more congested parts of the city. The POS results show that 81% of drivers and 67% of the general public support the provision of more PnR car parks as a means to alleviate traffic congestion.

4.6.12 The Working Group notes that there are already a number of such car parks in Hong Kong²⁷ but not all of them are well-utilised. Whether a PnR car park could attract patronage depends very much on its location, connection to PT, parking fees and conditions of usage. While the Working Group appreciates that there are physical constraints in identifying suitable locations at the fringe of congested areas to build more PnR car parks, it would like to urge the Government to explore every possibility to do so, particularly in future railway projects, as well as urban redevelopment and new development projects. The Government should also examine how to enhance the patronage of these car parks.

4.6.13 PnR facilities may also be provided to cyclists in new towns and NDAs for them to connect to PT. The Working Group notes the Government has been

²⁷ There are currently 11 PnR car parks located at or near MTR stations, seven of them, at or near Hong Kong Station, Kowloon Station, Tsing Yi Station, Choi Hung Station, Kam Sheung Road Station, Hung Hom Station and Sheung Shui Station, are either managed by TD or the MTRCL, whilst the remaining four, namely at or near Olympic Station, Hang Hau Station, Wu Kai Sha Station and Tuen Mun Station, are managed by private companies.

providing bicycle parking spaces near PTIs and MTR stations in new towns and NDAs. The Working Group recommends the Government to continue to strengthen its efforts on this front where feasible.

4.7 Other measures

(a) Separate studies to be/ being considered by Government

4.7.1 Apart from the above short, medium and long-term measures, the Working Group has examined a number of other measures, most of which are related to the provision of PT services and improvements to the traffic conditions at road harbour crossings. They are not detailed in this report because the Working Group notes that –

- (a) these issues require in-depth studies and hence fall outside the scope of the Working Group's study, which is of limited duration; and
- (b) the Government has already undertaken to conduct the necessary studies.

4.7.2 On PT, the Working Group considers that if motorists are to be encouraged not to own and/ or use PCs, PT services must be further improved in terms of availability, accessibility, as well as dissemination of information so that motorists would have attractive alternatives when they commute. The Working Group notes that the Government has already announced commencing the PTSS to examine various aspects of our PT system, including the inter-modal coordination among different types of PT modes. The Working Group understands that some of the issues discussed in the Working Group meetings would be further explored under the PTSS.

4.7.3 On the three road harbour crossings, the Working Group notes that the Government has announced its plan to revisit the rationalisation of their utilisation through toll adjustment in around 2017, upon the transfer of ownership of the Eastern Harbour Crossing to the Government and the commissioning of the CWB. The Working Group urges the Government to conduct a timely review and, if necessary, explore the feasibility of building another cross-harbour

road connection for long-term need in association with strategic new developments.

(b) Measures not recommended at this stage

4.7.4 The Working Group has also considered the following measures –

- (a) introducing a vehicle quota system to restrict number of vehicle licences issued;
- (b) introducing rationing schemes to restrict the number of vehicles on the road, such as only allowing vehicles with car plates ending in odd or even numbers to travel on alternate days of the month;
- (c) raising fuel tax to discourage motorists to make unnecessary trips;
- (d) promoting the use of car-pooling/ car-sharing, such as by imposing single rider surcharge for PCs at tunnels; and
- (e) strengthening enforcement against congestion related offences by contracting out the enforcement work to the private sector.

4.7.5 Some of the above-mentioned measures have been adopted by other cities and have achieved various degrees of success in easing road traffic congestion. For example, Singapore and Shanghai adopt a vehicle quota bidding system, while Beijing issues licences by drawing lots and adopts a rationing scheme to restrict the number of vehicles on the road during weekdays. In Japan, enforcement against illegal parking is outsourced to private contractors.

4.7.6 Nonetheless, the Working Group considers that these more draconian measures, though somehow effective in other cities, may not be suitable for introduction into Hong Kong at this stage. For example, increase in fuel tax would have implications for the transport trades. Outsourcing of enforcement against congestion related offences to private service providers could be controversial. Indeed, some cities (such as the Hull City in the United Kingdom), which have previously privatised the illegal-parking enforcement work, have ceased the arrangement.

4.7.7 That said, the Working Group wishes to point out that should our city's traffic condition continue to deteriorate after the Government has implemented the recommended additional measures, the Government may need to revisit some of these more drastic options at a later stage. Given the controversy involved, the Government should fully engage relevant stakeholders and the public throughout the process.

* * * * *

Chapter 5 – A Joint Effort

5.1 Overview

5.1.1 This Chapter explains how different sectors of the community could join hands to tackle road traffic congestion, and the importance for enhanced efforts in publicity and education.

5.2 A joint effort

5.2.1 Hong Kong always takes pride in its efficiency. We aspire to have a highly efficient road network to align with the city pace. Achieving this aspiration as our city continues to grow and develop may not be easy, but could be done when all of us, in our respective capacities, join hands to work together.

Road users

5.2.2. For individual road users, the simple acts of following traffic rules and regulations as part of our civic duty, and being more considerate to the needs of other road users can already make a huge difference to the traffic flow.

5.2.3 Small change in habit helps too. For example, instead of driving their own cars, motorists could consider car-pooling when attending social gatherings. Parents can also set a good example for their children – instead of circulating on the road or even double parking when picking up children from school, they can take PT or park their cars in nearby car parks. When done at an aggregate level, all these simple yet good practices can reduce the number of cars running on the road and lower roadside emissions.

Property owners and business operators

5.2.4 Prolonged on-street loading and unloading activities, especially in some parts of the urban areas, reduce road capacity and further aggravate congestion. The Working Group notes that TD has been trying to tackle the problem by employing traffic management measures (see **paragraphs 3.6.2 to 3.6.5**).

However, in some cases, the implementation of these measures faces resistance from the affected property owners and business operators.

5.2.5 The Working Group appeals to the affected parties to view these traffic management measures from a broader perspective. For example, relocating a layby may cause immediate inconvenience to loading/ unloading activities, but it could bring about an overall improvement to the local traffic, which will in turn benefit the affected parties through, say quicker delivery of goods. Business operators could also help to alleviate traffic congestion by arranging kerbside loading and unloading activities during non-peak hours.

LegCo and District Councils

5.2.6 As with the case of other public policies, formulation and implementation of traffic management measures entail a delicate balance between the overall benefits of such measures to the community and the impact on the stakeholders. Take the bus route rationalisation being pursued by the Government as an example. While such proposals can bring about a number of benefits - increasing the efficiency of bus network, relieving the pressure on fare increase, as well as lessening road traffic congestion, it is not uncommon that these proposals are met with local resistance as they necessitate amalgamation and cancellation of bus routes, and a change of travelling habit on the part of passengers.

5.2.7 The Working Group looks to the members of LegCo and District Councils to continue to perform the role as a bridge between the Government and the people. Apart from reflecting the voices of those whom they represent, they shoulder also the important responsibility of advancing the well-being of the community as a whole. The Working Group appeals to members of LegCo and District Councils to help their constituents to understand the long-term benefits of some unpopular yet essential traffic management measures.

Government

5.2.8 The Working Group notes that the Government has been adopting a three-pronged approach to enhance the city's mobility - improving the transport infrastructure, expanding and improving the PT system, and managing road use (please refer to **Chapter 3**). The Working Group agrees that the Government

should continue with these on-going efforts and work closely with relevant stakeholders in reviewing their effectiveness and seeking further improvements.

5.2.9 That said, for the reasons examined in **Chapter 3**, the effectiveness of the on-going measures are constrained. The Working Group urges the Government to be more innovative exploring and adopting new measures to tackle congestion. The increased application of new technology to traffic management and enforcement, as well as the promotion of walking and cycling for short-distance commuting in new towns and NDAs (the considerations are explained in **Chapter 3**), are steps in the right direction.

5.2.10 As well, the Government needs to be prepared to take forward measures such as ERP which, although doubtless controversial, will be effective in tackling congestion. The Working Group urges the Government to work closely with relevant stakeholders to press ahead with well-justified congestion relief proposals.

5.3 Publicity and education

5.3.1 If innovation nurtures the seed of congestion relief measures and determination is the will to plant the seed, publicity and education are the fertilisers to ensure the steady growth of the plant.

5.3.2. The Working Group considers it essential to put in place effective publicity and education programmes to raise the community's awareness of the importance to keep our city moving and how each of us could help. The Working Group suggests that the Government could promote two key messages –

- (a) *Joint effort*: it takes everyone to work together in tackling congestion; and
- (b) *Inconvenience is for a worthwhile cause*: some of the proposed measures to ease congestion may entail inconvenience and even financial consequences to certain quarters of the community, but it is for the benefits of the whole community.

5.3.3 The Working Group would also like to underline the importance and usefulness of educating the younger generation. The road safety song many of us learnt in our youth – “Don’t run but always watch before you walk 'cause the road is dangerous as a tiger’s mouth. Obey the traffic rules. Priority to safety is the key to longevity.” (「慢慢走，勿亂跑，馬路如虎口，交通規則要遵守，安全第一，命長久。」) still strikes a chord nowadays. If Hong Kong people, starting from a younger age, could internalise the need to observe traffic regulations and the benefit of using PT and walking, the need for tackling road congestion will hopefully be less pressing one day. Educating children will also bring about additional benefits as they can have positive influence on their family members. To achieve the desired effects, more lively use of promotion means attuned to the younger generation, such as social media, should be used.

5.3.4 Apart from targeting the general public and the younger generation, the Government could also work closely with different transport trades to solicit the support of professional drivers to alleviate road traffic congestion.

5.4 Sustaining our competitiveness

5.4.1 Hong Kong, being a world-class city, has been striving to maintain and enhance our competitiveness. Roads serve the important function of carrying people and goods around the city, which are like blood vessels circulating nutrients to feed our body. An efficient road network is important to a city’s health as it facilitates people’s movement and economic activities. Conversely, congestion erodes the health of our city in ways much more than prolonged travel time.

5.4.2 Mobility has increasingly become an important attribute in defining the living quality and attractiveness of a city¹. Air quality is another issue which is close to the hearts of the city dwellers. By improving road traffic congestion, we could gain mobility and reduce roadside pollutants in one go. This will certainly help attract more overseas talents and business investment in Hong Kong. The Working Group therefore appeals to all members of the community

¹ For example, under the Global Liveable Cities Index, quality of the land traffic and transport network, as well as air quality are among the indicators to be looked at in ranking the liveability of major cities. Another example is the Mercer Quality of Living Survey, which takes into account transport and health among other considerations in ranking cities where multi-national companies decide to open offices or plants, and how much to pay employees.

to work together to contain road traffic congestion and sustain our city's competitiveness.

5.4.3 The Working Group urges the Government to study and consider the recommendations of this Report. The Working Group hopes that the Government would accept the recommendations and implement them as soon as practicable.

* * * * *

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**Working Group on Road Traffic Congestion
formed under Transport Advisory Committee**

Membership

Chairman : Mr. KWOK Lam-kwong, Larry, BBS, JP

Members : Mr. FEE Chung-ming, Johnny, JP

Mr. HO Kam-wing, Richard

Ms. LAU Yuk-kuen

Mr. LEUNG Hoi-kwok, Edward

Prof. LO Hong-kam

Prof. LOO Pui-ying, Becky

Ms. NARDI Kar-wai, Agnes

Dr. NG Cho-nam, SBS, JP

Mr. WAN Wai-hei, Wesley

Transport Advisory Committee

Membership

Chairman : Mr KWOK Lam-kwong, Larry, BBS, JP
Members : Prof. CHONG Tai-leung
Mr. FEE Chung-ming, Johnny, JP
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Ms. Shalini MAHTANI
Ms. NARDI Kar-wai, Agnes
Dr. NG Cho-nam, SBS, JP
Mr. WAN Wai-hei, Wesley
Mr. YAN King-shun, Peter
Mr. YIP Siu-hong, Nelson, MH
Permanent Secretary for Transport and Housing (Transport) or his
representative
Commissioner for Transport
Commissioner of Police or his representative

Terms of Reference

To advise the Chief Executive-in-Council on transport matters in accordance with the following principles:-

1. The TAC's function is to advise the Chief Executive in Council on broad issues of transport policy with a view to improving the movement of both people and freight.
2. On any matter within its terms of reference, the TAC is free to communicate with members of the public and with any organization.
3. The TAC may consider financial matters where they directly relate to transport, but the responsibility for proposing public expenditure and taxation lies solely with the administration.
4. The Secretary for Transport and Housing will provide a secretariat for the TAC and will be responsible for administration in connection with it.
5. The TAC will be free to form sub-committees, to participate in joint-committees with other bodies, and to co-opt members for specific purposes. It may organize its work in whatever manner it considers most suitable.
6. The Chief Secretary for Administration may, after consultation with the TAC and the Chief Executive-in-Council, amend the terms of reference from time to time.

Public Opinion Survey on Road Traffic Congestion

1. Introduction

1.1 The POS on road traffic congestion was conducted to collect public views on the road traffic congestion situation in Hong Kong and the major causes, as well as to assess public acceptance on various measures for addressing road traffic congestion. The POS was conducted by an independent market research company. The actual survey work was carried out from 14 July 2014 to 10 August 2014, during which 6 000 telephone interviews of the general public and 3 010 face-to-face interviews of six target groups of drivers were conducted. **Table 1** shows the distribution of the successful interviews. The survey data from the interviews were then grossed up to better represent the entire population and the drivers¹.

Table 1: Distribution of successful interviews

Target Respondents	No. of Successful Interviews
(i) The general public	6 000
(ii) Drivers:	
(a) Private car owners/ drivers	502
(b) Taxi drivers	500
(c) Goods vehicle drivers	501
(d) Franchised bus drivers	502
(e) Public light bus drivers	501
(f) Other bus drivers ²	504
<i>Subtotal</i>	3 010
Total (i)+(ii)	9 010

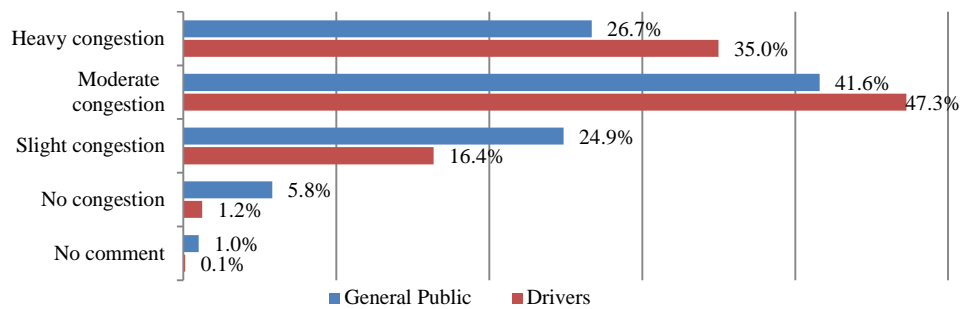
¹ Similar to the analysis of other surveys, the survey data from the 6 000 telephone interviews were grossed up in accordance with the distribution of the Hong Kong population by sex and age at end 2013 provided by the Census and Statistics Department. The survey data from the 3 010 face-to-face interviews were expanded by the annual total vehicle-kilometres of the vehicle types represented by the drivers in 2013.

² Other buses included tourist coaches, resident buses, school buses, cross boundary buses, hotel buses and company buses.

2. Survey findings – Road traffic congestion situation in Hong Kong

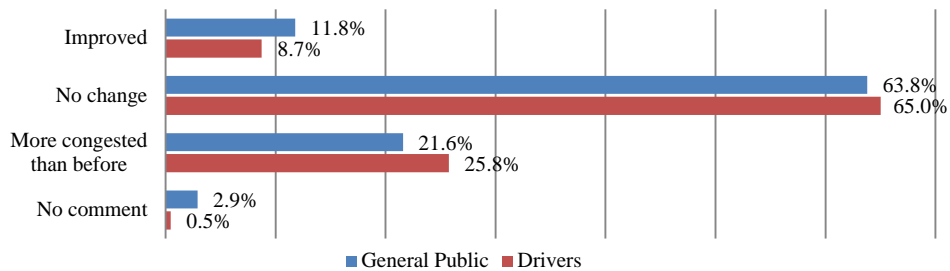
2.1 The public views on the overall road traffic conditions in terms of congestion level are shown in **Figure 1**. About 82% of the drivers considered that there was moderate to heavy congestion in Hong Kong, while 68% of the general public had the same perception. This indicates that, while the public in general agrees that road traffic congestion in Hong Kong is severe, the drivers, being more affected by road traffic congestion, are more critical of the traffic situation.

Figure 1: Overall road traffic condition in terms of congestion level



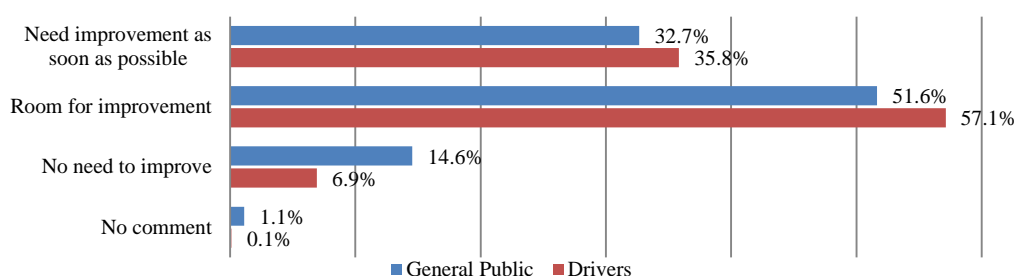
2.2 Over 60% of both the general public and the drivers considered that there is no deterioration of the road traffic conditions when compared with 12 months ago. About 25% considered that the situation had worsened, while about 10% considered that the situation had improved. The drivers were slightly more critical of the change in the road traffic conditions in the last 12 months. The results are summarised at **Figure 2**.

Figure 2: Overall road traffic condition compared with 12 months ago



2.3 With regard to whether there was a need to improve the road traffic conditions, about 84% of the general public considered that there was a need to improve, including about 33% who considered that improvement should be carried out as soon as possible. The corresponding statistics for drivers were 93% and 36% respectively, again showing that the drivers, being more affected by road traffic congestion, were more keen to see improvements. The results are summarised at **Figure 3**.

Figure 3: The need to improve road traffic congestion



2.4 On the basis of the discussions in **paragraphs 2.1 – 2.3** above, it can be concluded that –

- (a) the majority of the general public and the drivers in particular consider that there is moderate to heavy road traffic congestion in Hong Kong;
- (b) the majority of the general public and the drivers in particular consider that there is a need to improve road traffic congestion in Hong Kong; and
- (c) the majority of the general public and the drivers do not perceive there is a deterioration of the road traffic congestion in Hong Kong over the last 12 months.

3. Survey findings – Causes of road traffic congestion

3.1 The general public were given a list of eight factors, and asked if they agreed with each of them being the cause of road traffic congestion in Hong Kong. The results are summarised in **Table 2**. The top three factors selected by the general public, each with over 50% agreeing³ with the factors, were –

- (a) “Too many vehicles on roads” (62%);
- (b) “Too much road works” (54%); and
- (c) “Illegal parking” (52%).

3.2 The drivers were asked the same questions, together with two additional factors (i.e. a total of 10 factors), as further elaborated in **paragraph 3.4** below. The results are also summarised in **Table 2**. Over 50% agree with nine of the factors, and only the factor “Too many passengers picking-up/ dropping-off activities of mini-buses on roads” has less than 50% of respondents agreeing to be a cause of road traffic congestion. It shows that the drivers, being more directly affected by road traffic congestion, are more critical of the problem. The top four factors selected by the drivers, which also included the top three factors selected by the general public, were –

³ For reporting on the statistics in this Annex, “Agree” includes both the figures for “Totally Agree” and “Agree” from the surveys. Similarly, “Disagree” in the Paper includes both the figures for “Totally Disagree” and “Disagree” from the surveys.

- (a) “Insufficient facilities for loading/ unloading at kerbside” (77%);
- (b) “Too much road works” (75%);
- (c) “Illegal parking” (74%); and
- (d) “Too many vehicles on roads” (70%).

Table 2: Causes of road traffic congestion

Item	Causes of Road Traffic Congestion	Interviewees	Totally Agree/ Agree	Totally Disagree/ Disagree
1	Too many vehicles on roads	General Public	62%	10%
		Drivers	70%	6%
2	Too much road works	General Public	54%	17%
		Drivers	75%	7%
3	Illegal parking	General Public	52%	21%
		Drivers	74%	7%
4	Illegal passengers picking-up/ dropping-off or goods loading/ unloading on roads	General Public	49%	21%
		Drivers	69%	9%
5	Insufficient land for building new roads	General Public	46%	24%
		Drivers	58%	17%
6(a)	Too many passengers picking-up/ dropping-off activities of buses on roads	General Public	37%	30%
		Drivers	56%	17%
6(b)	Too many passengers picking-up/ dropping-off activities of tourist coaches on roads	General Public	31%	36%
		Drivers	50%	18%
6(c)	Too many passengers picking-up/ dropping-off activities of mini-buses on roads	General Public	25%	36%
		Drivers	36%	24%
7	Insufficient facilities for loading/ unloading at kerbside	General Public	N/A	N/A
		Drivers	77%	6%
8	Some vehicles wait or circulate on roads while looking for on-street parking spaces	General Public	N/A	N/A
		Drivers	67%	11%

3.3 For both the telephone and the face-to-face interviews, the general public and the drivers were also asked whether picking-up/ dropping-off activities of three different types of vehicles, viz. buses, light buses and coaches, were the causes of road traffic congestion. The general public were quite indifferent on whether such activities were the causes of road traffic congestion, and there were no big percentage differences between supporting and not supporting them as the causes of road traffic congestion. On the other hand, more drivers considered that picking-up/ dropping-off activities of buses (56%) and coaches (50%) were the causes of road traffic congestion.

3.4 For the face-to-face interviews of the drivers, two additional factors, viz. “insufficient facilities for loading/unloading at kerbside” and “some vehicles wait or circulate on roads while looking for on-street parking spaces” were included because it was considered that drivers should have paid more attention to these activities when compared to the general public. The majority of the drivers agreed that “insufficient facilities for loading/unloading at kerbside” (77% and ranked the top cause of road traffic congestion among the drivers) and “some vehicles wait or circulate on roads while looking for on-street parking spaces” (67%) were the causes of road traffic congestion.

3.5 Among the causes that the respondents had agreed to be contributing to road traffic congestion, they were further asked to indicate one of them as the most important factor causing road traffic congestion. The results are shown in **Figure 4** and **Figure 5** for the general public and the drivers respectively. The top three factors selected by the general public and the drivers in fact tally with each other, and they are –

- (a) “Too many vehicles on roads”
- (b) “Illegal parking”; and
- (c) “Too much road works”.

Figure 4: Major causes of road traffic congestion – General public’s view

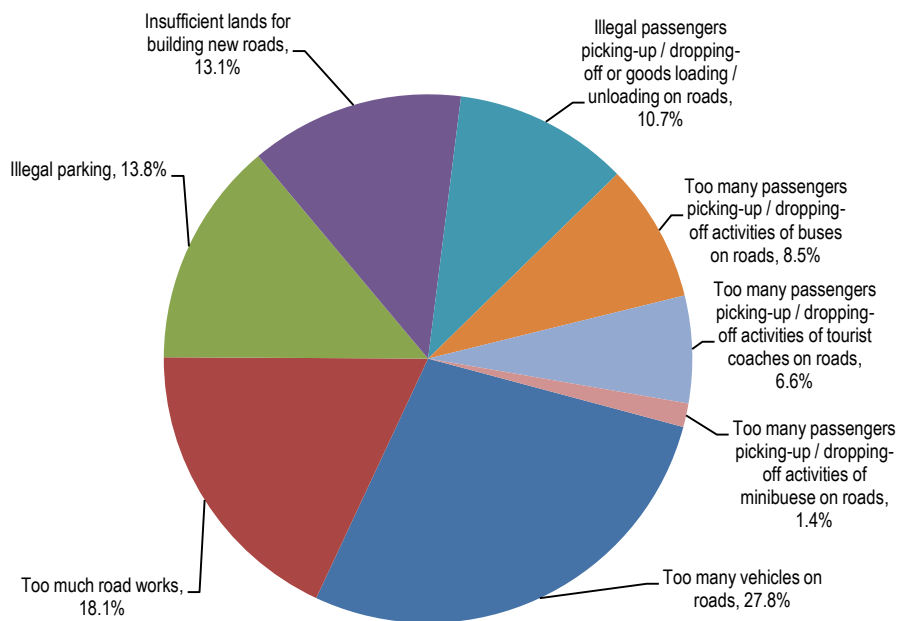
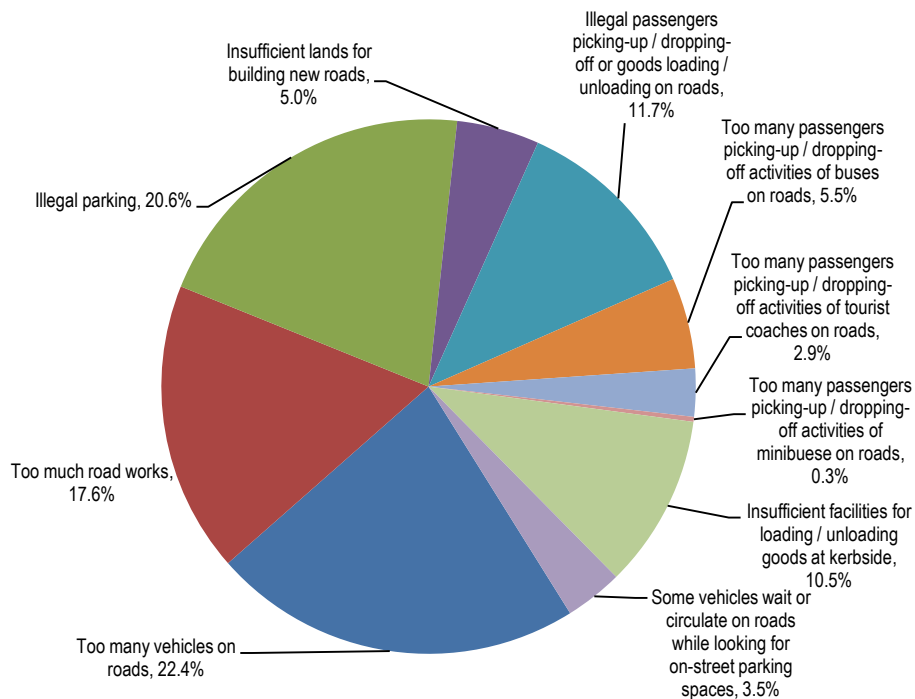


Figure 5: Major causes of road traffic congestion – Drivers’ view

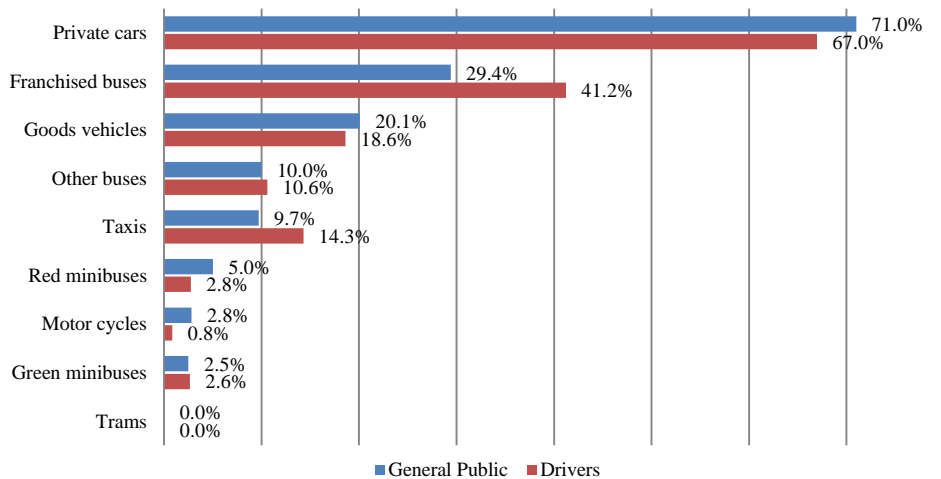


3.6 The top three “most important causes” in general tally with the results given in **Table 2**, with the exception that, while 77% of the drivers agreed that “Insufficient facilities for loading/ unloading at kerbside” was a cause of road traffic congestion and was the highest of the 10 factors asked, it was only the 5th most important factor in **Figure 5**.

3.7 “Too many vehicles on roads” was the top most important cause of road traffic congestion selected by both the general public and the drivers. For those agreeing that “too many vehicles on roads” was one of the causes of road traffic congestion, their views on which type of vehicles should be reduced in number⁴ were summarised in **Figure 6**. At the top of the list was PCs. Close to 70% of both the general public and the drivers considered that the number of PCs on the road should be reduced. Franchised bus was the second on the list. Also, there are more drivers (41%) than the general public (29%) supporting to reduce the number of franchised buses. The third on the list was goods vehicles, with 20% of the general public and 19% of the drivers supporting to reduce the number of goods vehicles.

⁴ The respondents could choose one or two types of vehicles.

Figure 6: Types of vehicles to be reduced



Note: The percentages do not add up to 100% as the respondents might choose one or two transport modes.

3.8 The respondents were given the chance to raise additional factors contributing to road traffic congestion that were not covered in the questionnaire. The additional factors raised by the respondents are –

- (a) too many narrow roads;
- (b) insufficient roads;
- (c) insufficient parking spaces;
- (d) uneven usage of tunnels or road harbour crossings;
- (e) too many signalised junctions;
- (f) too long waiting time at traffic lights; and
- (g) too many traffic accidents.

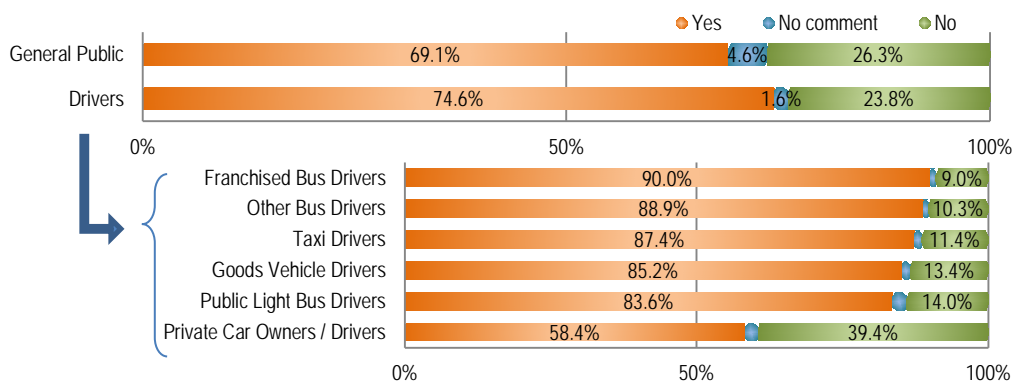
3.9 On the basis of the discussions in **paragraphs 3.1 to 3.8** above, it can be concluded that –

- (a) “Too many vehicles on roads”, “Illegal parking” and “Too much road works” are regarded by road users (both the general public and drivers) as the most important factors contributing to road traffic congestion in Hong Kong; and
- (b) among those who agree that there being too many vehicles on the road is one of the cause of congestion, most of them (be they members of the general public or drivers) are supportive of reducing the number of PCs.

4. Survey findings – The need to control growth of PCs and priority on use of road space

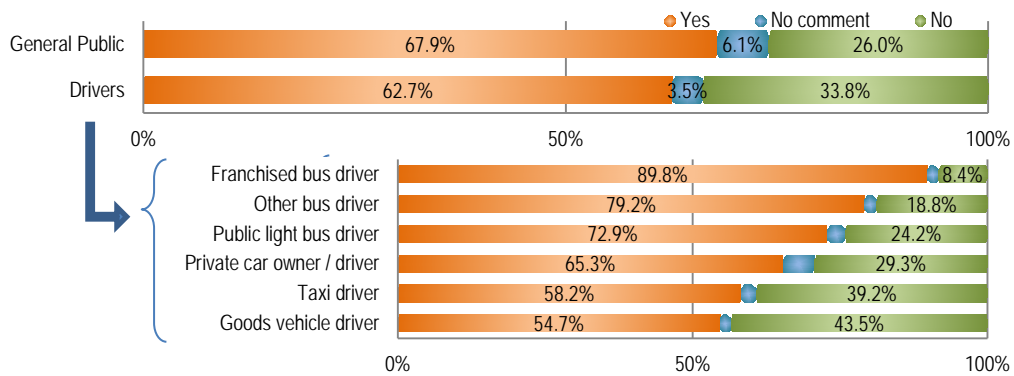
4.1 The majority of both the general public (69%) and the drivers (75%) agreed that there was a need to control the growth of PCs (see **Figure 7**). This echoes with the discussion in **paragraph 3.7** that PCs top the list of vehicles to be controlled. Interestingly, about 58% of the car owners/ drivers, being the target group of this measure, also considered that the control of the growth of PCs was required. That said, the percentage is the lowest among the other five groups of drivers. The percentage for the other five groups ranges from 84% to 90%.

Figure 7: Controlling the growth of PCs



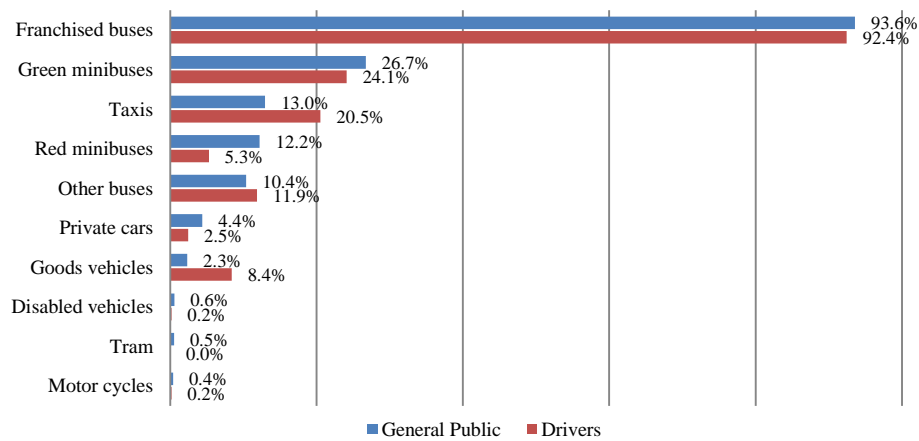
4.2 The majority of both the general public (68%) and the drivers (63%) agreed that road space in Hong Kong is limited, and they supported the Government to give priority to some transport modes to use the road (see **Figure 8**). Among the drivers, franchised buses drivers (90%) supported the measure most and this was followed by other bus drivers (80%).

Figure 8: Giving priority to some transport modes



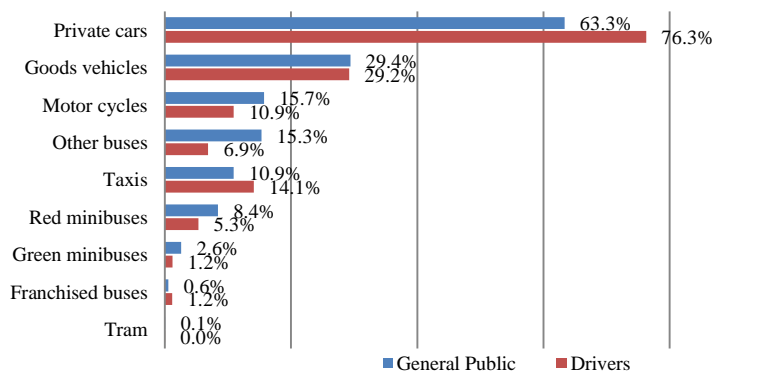
4.3 For those agreeing that priority should be given to some transport modes to use the roads, their views on which type of vehicles to be or not to be given priority⁵ are shown in **Figure 9** and **Figure 10** respectively. The majority of both the general public (94%) and the drivers (92%) considered that franchised buses should be given priority, followed by GMBs (about 25% for both the general public and the drivers). On the other hand, more than 63% of the general public and 76% of the drivers considered that PCs should not be given priority, followed by goods vehicles (about 29% for both). Interestingly, over half of the private car owners/ drivers (58%) also agreed that PCs should not be given priority. That said, the percentage is the lowest among the other five groups of drivers. The percentage for the other five groups ranges from 89% to 93%.

Figure 9: Transport modes to be given priority



Note: The percentages do not add up to 100% as the respondents might choose one or two transport modes.

Figure 10: Transport modes not to be given priority



Note: The percentages do not add up to 100% as the respondents might choose one or two transport modes.

⁵ Each respondent was asked to give one to two types of vehicles that should, and one to two types that should not be given priority to use the roads.

4.4 On the basis of the discussions in **paragraphs 4.1 to 4.3** above, it can be concluded that –

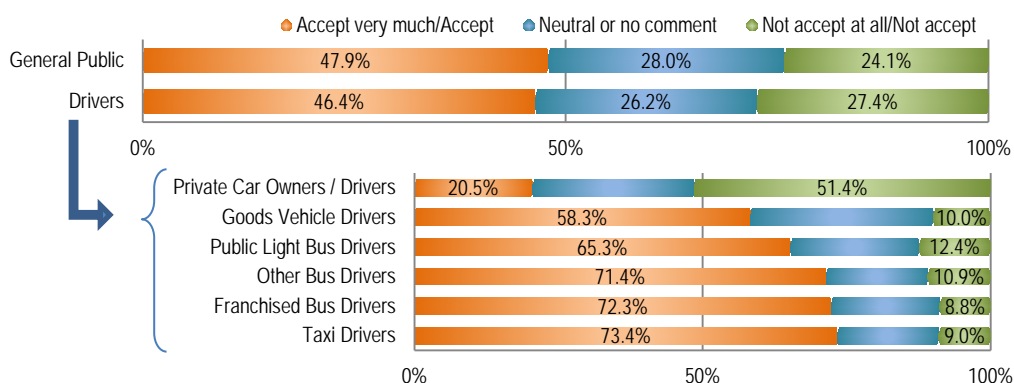
- (a) there is strong support to controlling the growth of PCs;
- (b) there is also strong support to giving priority to some transport modes in using the limited road space in Hong Kong;
- (c) there is a dominant view that priority should be given to franchised buses, and there is also some support to give priority to minibuses;
- (d) most people do not support giving priority to PCs, while quite some people do not support giving priority to goods vehicles.

5. Survey findings – Acceptance of proposed short and medium-term measures

(A) Increase the cost of owning/ using a PC

5.1 The respondents were asked if they accepted increasing the cost of owning or using a PC⁶ to contain road traffic congestion, and the results are summarised in **Figure 11**. Close to 48% of the general public accepted this measure while 24% of them were against it.

Figure 11: Acceptance of increasing the cost of owning/ using a PC



5.2 Among the drivers interviewed, about 46% accepted the use of fiscal measures on PCs to contain road traffic congestion, while about 27% were against it. From the survey results of the 502 private car owners/ drivers in the face-to-face interviews, only about 21% of them accepted the use of fiscal measures on PCs, while the majority (51%) were against it. On the other hand, over half of the respondents among the other five groups of drivers (about 58% - 73%) were supportive of the above measure.

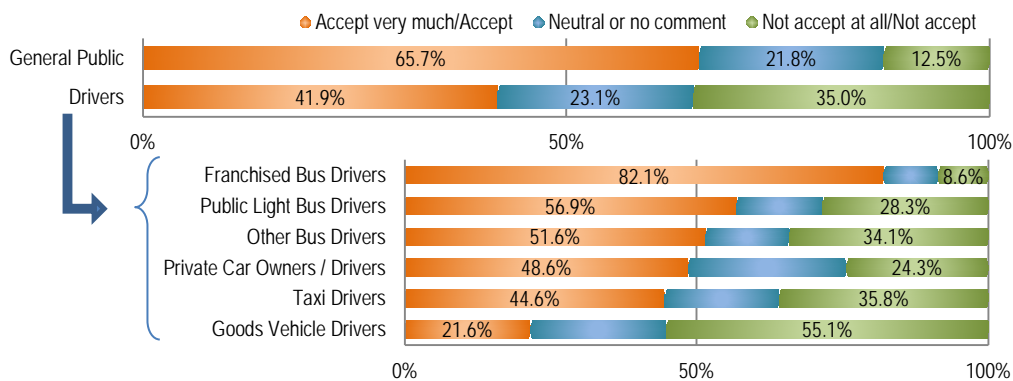
⁶ “Increase FRT for PCs” and “Increase ALF for PCs” were quoted as two examples in the interviews.

5.3 From the results of the POS discussed above, it is expected that the private car owners/ drivers, being directly affected by such fiscal measures, would be against them. However, there is moderate support from the general public and the non-private car drivers.

(B) Increase fixed penalties for congestion-related offences

5.4 The degree of acceptance of increasing fixed penalties for congestion-related offences is shown in **Figure 12**. About 66% of the general public accepted this measure, with 13% against it. For the drivers, about 42% of the drivers accepted this measure, with 35% against it. Among the various types of drivers, franchised bus drivers (82%) accepted this measure most, followed by public light bus drivers (57%) and other bus drivers (52%). More than half (55%) of the goods vehicle drivers were against this measure. This is understandable as their daily operations involve many goods loading/ unloading activities and they would be affected most by this measure.

Figure 12: Acceptance on increasing fixed penalties for congestion-related offences

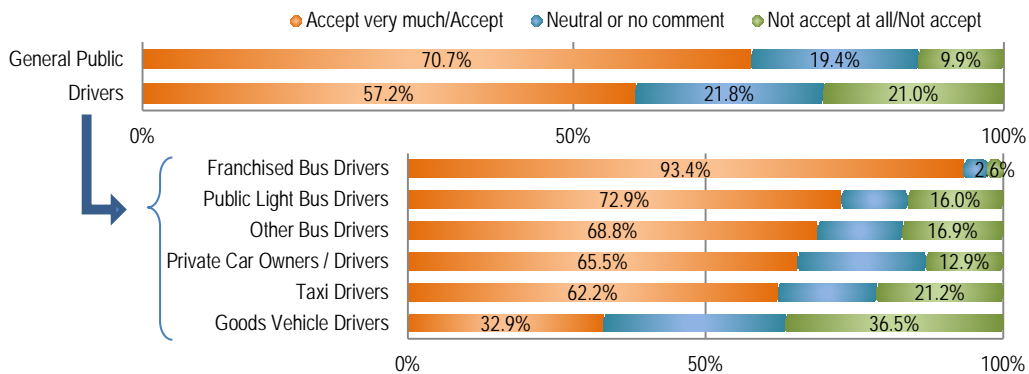


5.5 From the results of the POS discussed above, it is expected that there will be strong support from the general public to increase the fixed penalties for congestion-related traffic offences. Some objections are expected from the drivers, and in particular from the goods vehicle drivers, being the most affected.

(C) Strengthen enforcement against congestion-related offences

5.6 The degree of acceptance of strengthening enforcement against congestion-related offences is shown in **Figure 13**. This measure was acceptable to about 71% of the general public, with only less than 10% against it. For the drivers, 57% of the drivers accepted the measure, with 21% against it. Among the various types of drivers, franchised bus drivers (93%) accepted this measure most, followed by public light bus drivers (73%). The goods vehicle drivers were the only group in which less than half supported this measure: 33% supported it and 37% were against it. Again, it is because goods vehicle drivers would be affected most by this measure due to their work nature.

Figure 13: Acceptance on strengthening enforcement against congestion-related offences



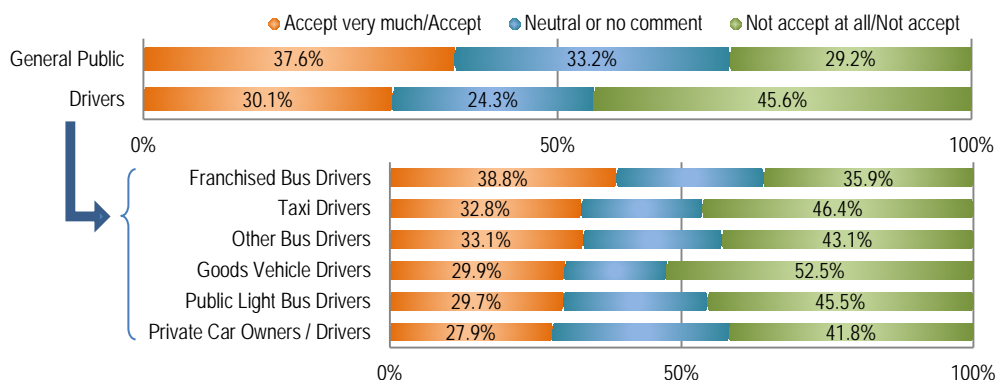
5.7 From the results of the POS discussed above, it is expected that there will be strong support from the general public for strengthening enforcement against congestion-related offences. The support is indeed slightly higher than the similar measure of increasing the fixed penalties for congestion-related traffic offences. Some objections are expected from the goods vehicle drivers, because they are the most affected group.

(D) Increase parking meter charges

5.8 The degree of acceptance of increasing parking meter charges is shown in Figure 14. The opinions from the general public were rather diverse. While there were about 38% supporting the measure, 29% were against it, with the remaining 33% neutral. On the other hand, 46% of the drivers were against this measure, with only about 30% of the drivers supporting it, and the remaining 24% neutral. Among the drivers, more than half (53%) of the goods vehicle drivers were against the measure.

5.9 From the results of the POS discussed above, it is expected that there is only moderate support from the general public and the drivers on increasing parking meter charges. In fact, objection from the drivers could be strong.

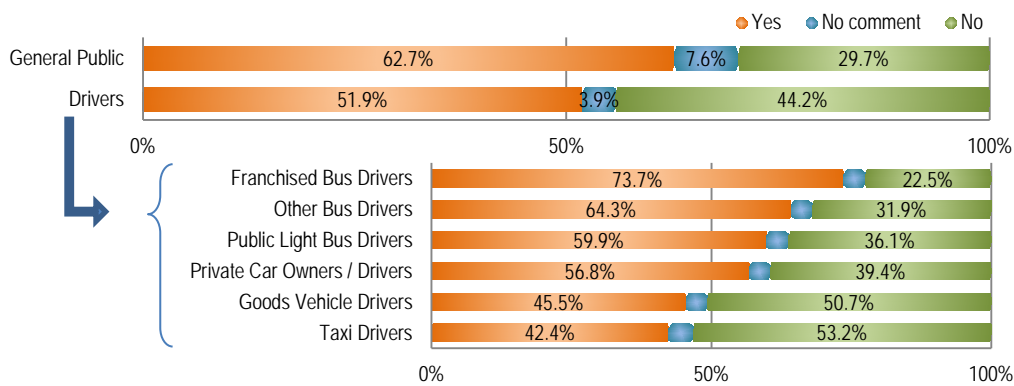
Figure 14: Acceptance on increasing parking meter charges



(E) Acceptance on implementing ERP

5.10 The survey included a question asking the respondents whether they supported the implementation of ERP in busy areas to reduce the number of specified types of vehicles in these areas. The results are shown in **Figure 15**. Close to 63% of the general public supported this measure, while about 30% were against it. The opinions of the drivers, however, were more diverse. While close to 52% of the drivers supported this measure, it is only marginally higher than those who were against it (about 44%). Among the various groups of drivers, franchised bus drivers (74%) supported ERP most, followed by other bus drivers (64%). For the goods vehicle drivers and taxi drivers, a higher percentage of them were not supportive of this measure (51% and 53% respectively).

Figure 15: Acceptance on implementation of ERP



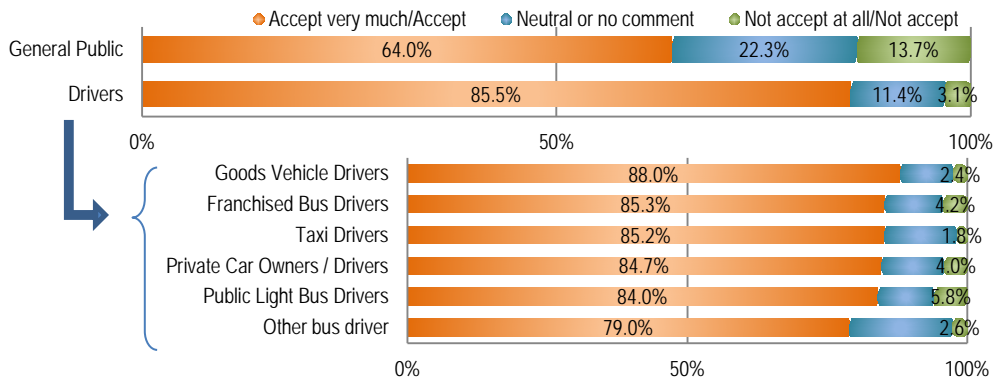
5.11 From the results of the POS discussed above, it is expected that there will be similar degree of support for and objection against ERP. This is an evidence that ERP remains a controversial subject in the community.

6. Survey findings – Acceptance of other measures

(A) Bus route rationalisation

6.1 The acceptance of bus route rationalisation to contain road traffic congestion is shown in **Figure 16**. About 64% of the general public and 86% of the drivers considered the measure acceptable. The drivers welcome this measure more than the general public.

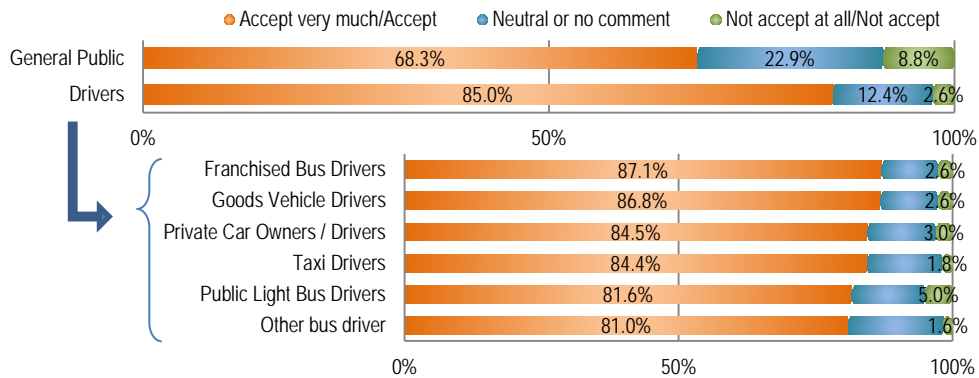
Figure 16: Acceptance on bus route rationalization



(B) More BBIs and improve facilities at existing BBIs

6.2 The degree of acceptance of providing more BBI and improving facilities at the existing BBI is shown in **Figure 17**. This measure was considered acceptable to about 69% of the general public and 85% of the drivers. The results are similar to those of bus route rationalisation.

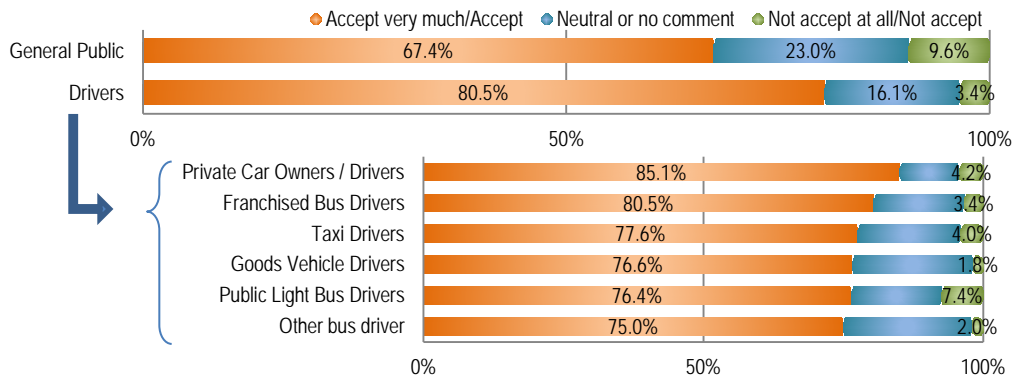
Figure 17: Acceptance on more BBIs and improving facilities at the existing BBIs



(C) More PnR car parks at the fringe of congested areas

6.3 The degree of acceptance of providing more PnR car parks at the fringe of congested areas is shown in **Figure 18**. This measure was considered acceptable to about 67% of the general public and 81% of the drivers.

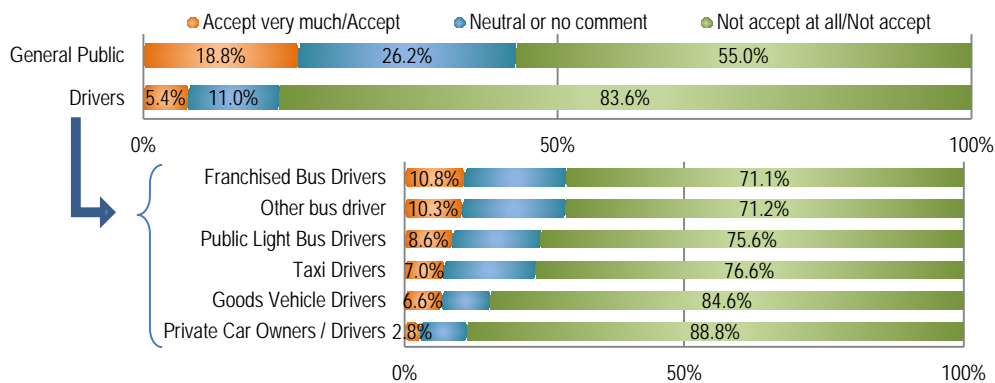
Figure 18: Acceptance on providing more PnR car parks at the fringe of congested areas



(D) Reduce the supply of parking spaces

6.4 The degree of acceptance of reducing the supply of parking spaces is shown in **Figure 19**. Only 19% of the general public considered this measure acceptable while 55%, being the majority, considered it not acceptable. The drivers, who would be more directly affected, were more critical and considered it the most unacceptable measure in the survey. Close to 84% of the drivers considered it unacceptable.

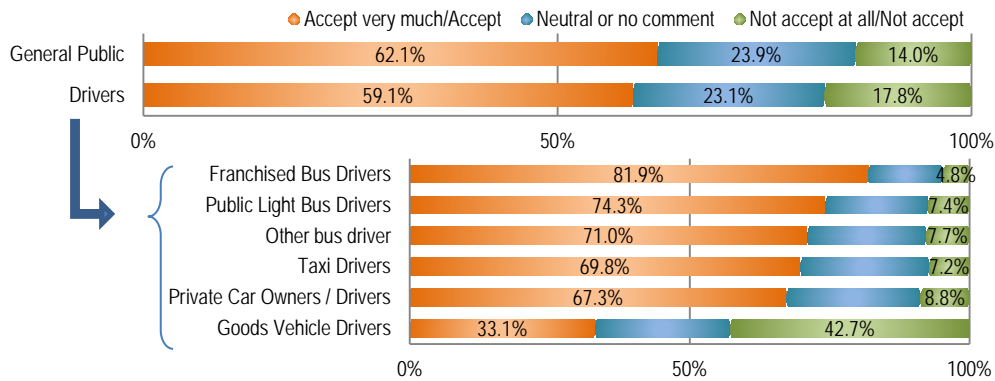
Figure 19: Acceptance on reducing the supply of parking spaces



(E) Allowing loading/ unloading of goods vehicles in busy areas only during non-peak hours

6.5 The acceptance of allowing loading/ unloading of goods vehicles in busy areas only during non-peak hours is shown in **Figure 20**. This measure was considered acceptable to about 62% of the general public. For drivers, 59% supported this measure. However, as the measure is targeted specifically at goods vehicle drivers, only 33% indicated support, with 43% against it. The majority of the other five groups of drivers, on the other hand, supported the measure.

Figure 20: Acceptance on allowing loading / unloading of goods vehicles in busy areas only during non-peak hours



7. Survey findings – Other suggestions

7.1 Respondents were invited to propose any measures not covered in the survey (i.e. those discussed in **paragraphs 5.1 to 6.5**) to contain road traffic congestion. There were only a small number of responses and are listed below. Some of these suggestions were indeed similar to those listed in the questionnaire. Measures not covered in the questionnaires are marked with an asterisk.

Reducing the number of vehicles on roads

1. Controlling the growth of PCs
2. Reducing the number of PCs on roads
3. Reducing the number of buses on roads
4. Implementing odd/ even car number plates restriction*
5. Implementing road pricing

Strengthening enforcement

6. Deploying more law enforcement officers
7. Strengthening the enforcement of illegal road traffic operations

Adjustment of tunnel toll

8. Reducing the toll fees of Eastern and Western Harbour Crossings for diversions of traffic flow*

Construction of new infrastructures/ facilities

9. Road widening*
10. Building more flyovers/ tunnels*
11. Building more footbridges/ subways*
12. Building more railways*
13. Building new roads*
14. Increasing the number of parking spaces*

Better coordination/ control of road works

15. Speeding up road works*

16. Reducing road works*

* Measures not covered in the questionnaire.

	Sup :	Case :
	Edit :	Check :

Public Opinion Survey on Road Traffic Congestion (TIGP)

RESTRICTED WHEN ENTERED WITH DATA

ACCESSIBLE TO AUTHORIZED PERSONS ONLY

Tel. code: _____

Name of respondent: _____ Contact tel no.: _____

Interviewer no.: _____ Interview date: _____

Time started: _____ Time ended: _____

Introduction:

Hello! My name is _____, an interviewer of Mercado Solutions Associates Ltd appointed by the Transport Department. We are now carrying out a public opinion survey on road traffic congestion in Hong Kong and would like to conduct a short interview with you. The information you provide will be treated with strict confidence and will be used for an aggregate analysis only. Thank you for your co-operation.

Screening

S1. We wish to invite one of your household members to conduct the interview by a random selection method. May I know how many members are there in your household, who aged 15 or above? I mean those who live here at least 4 nights a week. Please exclude live-in domestic helpers.

Record the no. of person(s): _____ **[If more than 1, ask S2; if not, invite this member for interview.]**

S2. Among these _____ household members, may I know who has just passed the birthday? (If the respondent does not understand: that means... today is the ___ of _____, so whose birthday is the last birthday?)

I am the one → **[Read out]** Thank you. Could I start the interview now? **[Start the interview]**

Others → **[Read out]** I would like to conduct the interview with this member. Is he/ she here? Can I talk to him/ her? **[Repeat the introduction & start the interview]**

[If the selected respondent is not at home or not available, interviewer should make appointment or call again later] When should I call him/ her again?

[If the respondent refuses to conduct the interview, read out] Your opinion is very important for the Government to improve the road traffic congestion in Hong Kong. Our interview takes a few minutes only. And don't worry, the information you provide will be treated with strict confidence and will be used for an aggregate analysis only.

Main Questionnaire

Q1.	In the past 3 months, how often did you use the following transport modes? Often, occasionally, seldom or never? [SA]				
	[Rotate to read out]	Often	Occasionally	Seldom	Never
<input type="checkbox"/>	(i) Railway (including MTR, Light Rail)	1	2	3	4
<input type="checkbox"/>	(ii) Franchised buses (including KMB, NWFB, CTB, islands buses or airport buses)	1	2	3	4
<input type="checkbox"/>	(iii) Other buses (e.g. tourist coaches, resident buses, school buses, shuttle buses)	1	2	3	4
<input type="checkbox"/>	(iv) Red minibuses	1	2	3	4
<input type="checkbox"/>	(v) Green minibuses	1	2	3	4
<input type="checkbox"/>	(vi) Taxis	1	2	3	4
<input type="checkbox"/>	(vii) Private cars (including drivers and passengers)	1	2	3	4
<input type="checkbox"/>	(viii) Motor cycles (including drivers and passengers)	1	2	3	4
<input type="checkbox"/>	(ix) Trams	1	2	3	4
<input type="checkbox"/>	(x) Bicycles	1	2	3	4
<input type="checkbox"/>	(xi) Ferries	1	2	3	4
<input type="checkbox"/>	(xii) Goods vehicles	1	2	3	4
【If answers are all “4”, thank the respondent & terminate the interview】					

Q2a.	In your opinion, the overall road traffic in Hong Kong now is... [Random to readout answers in order of 1-4 or 4-1].	[SA]	
	No congestion	1	
	Slight congestion	2	
	Moderate congestion	3	
	Heavy congestion	4	
	Don't know or No comment [Do not read out]	8	

Q2b.	When compared with 12 months ago, in your opinion, the overall road traffic in Hong Kong now is... [Random to readout answers in order of 1-3 or 3-1].	[SA]	
	More congested than before	1	
	No change	2	
	Have improved	3	
	Don't know or No comment [Do not read out]	8	

Q3.	In your opinion, the overall road traffic in Hong Kong now is... [Random to readout answers in order of 1-3 or 3-1].	[SA]	
	No need to improve or Acceptable	1	
	Room for improvement	2	
	Need improve as soon as possible	3	
	Don't know or No comment [Do not read out]	8	

Q4(i). Do you agree that the following items are the reasons that cause the road traffic congestion in Hong Kong? Using a 5-point scale, "1" denotes "totally disagree" and "5" denotes "totally agree".

Q4(ii). For...**[Read out those Q4(i)a – e & g = code 4 – 5 one by one]**, which one is the **main reason** that causes the road traffic congestion in Hong Kong?

		Q4(i). [SA]						Q4(ii). [SA]
		Totally agree	Agree	Neutral	Disagree	Totally disagree	No comment [Do not read out]	
[Rotate to read out]								
<input type="checkbox"/>	a. Insufficient lands for building new roads	5	4	3	2	1	8	1
<input type="checkbox"/>	b. Illegal passengers picking-up/ dropping-off or goods loading/ unloading on roads	5	4	3	2	1	8	2
<input type="checkbox"/>	c. Illegal parking, which blocks the traffic	5	4	3	2	1	8	3
<input type="checkbox"/>	d. Too many road works	5	4	3	2	1	8	4
<input type="checkbox"/>	e. Too many vehicles on roads	5	4	3	2	1	8	5
[Ask for e = code 4 – 5] f. Which type of vehicle should be reduced in number? Any others?								
					1 st mention [SA]	2 nd mention [SA]		
Franchised buses (including KMB, NWFB, CTB, islands buses or airport buses)					1	1		
Other buses (e.g. tourist coaches, resident buses, school buses, shuttle buses)					2	2		
Red minibuses					3	3		
Green minibuses					4	4		
Taxis					5	5		
Private cars					6	6		
Motor cycles					7	7		
Goods vehicles					8	8		
Others, please specify: _____								
<input type="checkbox"/>	g. Too many passengers picking-up/ dropping-off activities on roads							
	(i) Buses	5	4	3	2	1	8	6
	(ii) Minibuses	5	4	3	2	1	8	7
	(iii) Tourist coaches	5	4	3	2	1	8	8

Q5. Apart from the above mentioned, are there other reasons that cause the road traffic congestion in Hong Kong? Any others?

Q6.	Do you think the Government needs to propose measures to control the growth of private cars?	[SA]
	Yes	1
	No	2
	Don't know or No comment [Do not read out]	8

Q7a. Do you consider the following measures to contain road traffic congestion acceptable? Using a 5-point scale, “1” denotes “not accept at all” and “5” denotes “accept very much”. **[SA]**

		Accept very much	Accept	Neutral	Not accept	Not accept at all	No comment [Do not read out]
<input type="checkbox"/>	[Rotate to read out]						
<input type="checkbox"/>	h. Increase penalties for illegal passengers picking-up/ dropping-off or goods loading/ unloading and illegal parking	5	4	3	2	1	8
<input type="checkbox"/>	i. Strengthen the enforcement against illegal passengers picking-up/ dropping-off or goods loading/ unloading and illegal parking	5	4	3	2	1	8
<input type="checkbox"/>	j. Bus route rationalisation (i.e. reduce the number of direct bus routes to congested areas and provide bus-bus interchange fare concessions)	5	4	3	2	1	8
<input type="checkbox"/>	k. Provide more bus-bus interchanges and improve facilities at the existing bus-bus interchanges	5	4	3	2	1	8
<input type="checkbox"/>	l. Provide more park-and-ride car parks at the fringe of congested areas	5	4	3	2	1	8
<input type="checkbox"/>	m. Increase parking charges of public parking spaces	5	4	3	2	1	8
<input type="checkbox"/>	n. Reduce the supply of parking spaces	5	4	3	2	1	8
<input type="checkbox"/>	o. Allow loading/ unloading of goods vehicles in busy areas only during non-peak hours	5	4	3	2	1	8
<input type="checkbox"/>	p. Increase the cost of owning/ using a private car (e.g. First Registration Tax of buying a new private car, Annual License Fee for private car)	5	4	3	2	1	8

Q7b. Apart from the above mentioned, are there other measures to contain road traffic congestion? Any others?

Q8.	If the Government implements Electronic Road Pricing (ERP) in busy areas (such as Central) to reduce the number of specified types of vehicles driving into these areas, do you support this?	[SA]	
		Yes	1
		No	2
		Don't know or No comment [Do not read out]	8

Q9.	As road space is limited, do you support the Government to give priority for certain transport modes to use roads?	[SA]	
		Yes	1 → Ask Q10
		No	2 → Go to Q12
		Don't know or No comment [Do not read out]	8 → Go to Q12

Q10. Which of the following transport mode **should** be accorded with the highest priority to use roads? Any others?
 Q11. Which of the following transport mode **should not** be accorded with the most priority to use roads? Any others?

		Q10.		Q11.	
		1 st mention [SA]	2 nd mention [SA]	1 st mention [SA]	2 nd mention [SA]
[Rotate to read out]					
<input type="checkbox"/>	Franchised buses (including KMB, NWFB, CTB, islands buses or airport buses)	1	1	1	1
<input type="checkbox"/>	Other buses (e.g. tourist coaches, resident buses, school buses, shuttle buses)	2	2	2	2
<input type="checkbox"/>	Red minibuses	3	3	3	3
<input type="checkbox"/>	Green minibuses	4	4	4	4
<input type="checkbox"/>	Taxis	5	5	5	5
<input type="checkbox"/>	Private cars	6	6	6	6
<input type="checkbox"/>	Motor cycles	7	7	7	7
<input type="checkbox"/>	Goods vehicles	8	8	8	8
<input type="checkbox"/>	Others, please specify: _____	_____	_____	_____	_____

Q12. Do you have any other opinions on the situation of road traffic congestion in Hong Kong and the improvement measures to contain congestion? Any others?

Background Information

X1.	Record Gender:	Male Female	[SA] 1 2	
X2.	Which of the following age group are you in? [Read out 1 – 7]	15 – 19 20 – 24 25 – 29 30 – 39 40 – 49 50 – 59 60 or above Refused to answer	[SA] 1 2 3 4 5 6 7 9	
X3.	Would you please tell me your highest education attainment? [Read out 1 – 3]	Primary or below Secondary/ matriculation Tertiary or above Refused to answer	[SA] 1 2 3 9	
X4.	Are you a... ? [Read out 1 – 5]	Working person (incl. full-time or part-time) Student Home-maker Retired person Unemployed person Others (pls specify): _____ Refused to answer	[SA] 1 2 3 4 5 9	→ Ask X5 → Go to X6
X5.	Are you a professional driver?	Yes No Refused to answer	[SA] 1 2 9	
X6a.	Are you a private car owner or driver?	Yes No	[SA] 1 2	→ Ask X6b → End of interview
X6b.	On average, how many days do you drive in a week?	_____	Day(s)	

~ **Thank you for your co-operation!** ~

[Read out] Another staff of our company (Mercado Solutions Associates Ltd) may contact you later to re-confirm the interview that I have done or to clarify some questions. He/ she will ask a few questions only and will not disturb you for a long time.

Interviewer declaration

I hereby authenticate the data accuracy and integrity, and the interview was conducted by following the guidelines maintained by the international standard of market research.

Signature: _____

Date: _____



Sup :	Case :
Edit :	Check :

Public Opinion Survey on Road Traffic Congestion (FFID)

RESTRICTED WHEN ENTERED WITH DATA
ACCESSIBLE TO AUTHORIZED PERSONS ONLY

Tel. code: _____

Name of respondent: _____ Contact tel no.: _____

Interviewer no.: _____ Interview date: _____

Time started: _____ Time ended: _____

Introduction:

Hello! My name is _____, an interviewer of Mercado Solutions Associates Ltd appointed by the Transport Department **[Show the identity card]**. We are now carrying out a public opinion survey on road traffic congestion in Hong Kong and would like to conduct a short interview with you. The information you provide will be treated with strict confidence and will be used for an aggregate analysis only. Thank you for your co-operation.

Screening

<p>Q1. (Record by interviewer, ask if needed) Are you a... :</p>	[SA]	
<p style="text-align: right;">Private car owner/ Private car driver</p>	1	
	Taxi driver	2
	Goods vehicle driver	3
<p style="text-align: right;">Franchised bus (including KMB, NWFB, CTB, islands bus or airport bus) driver</p>	4	
	Public light bus driver	5
	Tourist coach driver	6
	Resident bus driver	7
	School bus driver	8
<p style="text-align: right;">Shuttle bus (e.g. cross-boundary, hotel bus, company bus) driver</p>	9	
	Other bus driver	10

<p>Q2a. In your opinion, the overall road traffic in Hong Kong now is...[Show card].</p>	[SA]	
	No congestion	1
	Slight congestion	2
	Moderate congestion	3
	Heavy congestion	4
<p style="text-align: right;">Don't know or No comment [Do not read out]</p>	8	

<p>Q2b. When compared with 12 months ago, in your opinion, the overall road traffic in Hong Kong now is...[Show card].</p>	[SA]	
	More congested than before	1
	No change	2
	Have improved	3
<p style="text-align: right;">Don't know or No comment [Do not read out]</p>	8	

Q3.	In your opinion, the overall road traffic in Hong Kong now is... [Show card] .	No need to improve or Acceptable	1
		Room for improvement	2
		Need to improve as soon as possible	3
		Don't know or No comment [Do not read out]	8

Q4(i). Do you agree that the following items are the reasons that cause the road traffic congestion in Hong Kong? Using a 5-point scale, "1" denotes "totally disagree" and "5" denotes "totally agree".

Q4(ii). For...**[Read out those Q4(i)a – e & g – i = code one by one]**, which one is the **main reason** that causes the road traffic congestion in Hong Kong?

		Q4(i). [Show card] [SA]					No comment [Do not read out]	Q4(ii). [SA]
		Totally agree	Agree	Neutral	Disagree	Totally disagree		
[Rotate to read out]								
<input type="checkbox"/>	a. Insufficient lands for building new roads	5	4	3	2	1	8	01
<input type="checkbox"/>	b. Illegal passengers picking-up/ dropping-off or goods loading/ unloading on roads	5	4	3	2	1	8	02
<input type="checkbox"/>	c. Illegal parking, which blocks the traffic	5	4	3	2	1	8	03
<input type="checkbox"/>	d. Too many road works	5	4	3	2	1	8	04
<input type="checkbox"/>	e. Too many vehicles on roads	5	4	3	2	1	8	05

[Ask for e = code 4 – 5] f. Which type of vehicle should be reduced in number? Any others?

		1 st mention [SA]	2 nd mention [SA]
Franchised buses (including KMB, NWFB, CTB, islands buses or airport buses)		1	1
Other buses (e.g. tourist coaches, resident buses, school buses, shuttle buses)		2	2
Red minibuses		3	3
Green minibuses		4	4
Taxis		5	5
Private cars		6	6
Motor cycles		7	7
Goods vehicles		8	8
Others, please specify: _____			

<input type="checkbox"/>	g. Too many passengers picking-up/ dropping-off activities on roads							
	(iv) Buses	5	4	3	2	1	8	06
	(v) Minibuses	5	4	3	2	1	8	07
	(vi) Tourist coaches	5	4	3	2	1	8	08
<input type="checkbox"/>	h. Insufficient facilities for loading/ unloading goods at kerbside	5	4	3	2	1	8	09
<input type="checkbox"/>	i. Some vehicles wait or circulate on roads while looking for on-street parking spaces	5	4	3	2	1	8	10

Q5. Apart from the above mentioned, are there other reasons that cause the road traffic congestion in Hong Kong? Any others?

Q6. Do you think the Government needs to propose measures to control the growth of private cars?	[SA]
Yes	1
No	2
Don't know or No comment [Do not read out]	8

Q7a. Do you consider the following measures to contain road traffic congestion acceptable? Using a 5-point scale, "1" denotes "not accept at all" and "5" denotes "accept very much". **[Show card] [SA]**

	Accept very much	Accept	Neutral	Not accept	Not accept at all	No comment [Do not read out]
<input type="checkbox"/> [Rotate to read out]						
<input type="checkbox"/> j. Increase penalties for illegal passengers picking-up/ dropping-off or goods loading/ unloading and illegal parking	5	4	3	2	1	8
<input type="checkbox"/> k. Strengthen the enforcement against illegal passengers picking-up/ dropping-off or goods loading/ unloading and illegal parking	5	4	3	2	1	8
<input type="checkbox"/> l. Bus route rationalisation (i.e. reduce the number of direct bus routes to congested areas and provide bus-bus interchange fare concessions)	5	4	3	2	1	8
<input type="checkbox"/> m. Provide more bus-bus interchanges and improve facilities at the existing bus-bus interchanges	5	4	3	2	1	8
<input type="checkbox"/> n. Provide more park-and-ride car parks at the fringe of congested areas	5	4	3	2	1	8
<input type="checkbox"/> o. Increase parking charges of public parking spaces	5	4	3	2	1	8
<input type="checkbox"/> p. Reduce the supply of parking spaces	5	4	3	2	1	8
<input type="checkbox"/> q. Allow loading/ unloading of goods vehicles in busy areas only during non-peak hours	5	4	3	2	1	8
<input type="checkbox"/> r. Increase the cost of owning/ using a private car (e.g. First Registration Tax of buying a new private car, Annual License Fee for private car)	5	4	3	2	1	8

Q7b. Apart from the above mentioned, are there other measures to contain road traffic congestion? Any others?

Q8. If the Government implements Electronic Road Pricing (ERP) in busy areas (such as Central) to reduce the number of specified types of vehicles driving into these areas, do you support this?		[SA]	
	Yes	1	
	No	2	
	Don't know or No comment [Do not read out]	8	

Q9. As road space is limited, do you support the Government to give priority for certain transport modes to use roads?		[SA]	
	Yes	1	→ Ask Q10
	No	2	→ Go to Q12
	Don't know or No comment [Do not read out]	8	→ Go to Q12

Q10. Which of the following transport mode should be accorded with the highest priority to use roads? Any others?					
Q11. Which of the following transport mode should not be accorded with the most priority to use roads? Any others?					
		Q10.		Q11.	
		1 st mention	2 nd mention	1 st mention	2 nd mention
	[Rotate to read out]	[SA]	[SA]	[SA]	[SA]
<input type="checkbox"/>	Franchised buses (including KMB, NWFB, CTB, islands buses or airport buses)	1	1	1	1
<input type="checkbox"/>	Other buses (e.g. tourist coaches, resident buses, school buses, shuttle buses)	2	2	2	2
<input type="checkbox"/>	Red minibuses	3	3	3	3
<input type="checkbox"/>	Green minibuses	4	4	4	4
<input type="checkbox"/>	Taxis	5	5	5	5
<input type="checkbox"/>	Private cars	6	6	6	6
<input type="checkbox"/>	Motor cycles	7	7	7	7
<input type="checkbox"/>	Goods vehicles	8	8	8	8
<input type="checkbox"/>	Others, please specify: _____	_____	_____	_____	_____

Q12. Do you have any other opinions on the situation of road traffic congestion in Hong Kong and the improvement measures to contain congestion? Any others?

Background Information

X1.	Record Gender:	Male Female	[SA] 1 2	
-----	----------------	----------------	----------------	--

X2.	Which of the following age group are you in? [Show card]	15 – 19 20 – 24 25 – 29 30 – 39 40 – 49 50 – 59 60 or above Refused to answer	[SA] 1 2 3 4 5 6 7 9	
-----	---	--	--	--

X3.	Would you please tell me your highest education attainment? [Show card]	Primary or below Secondary/ matriculation Tertiary or above Refused to answer	[SA] 1 2 3 9	
-----	--	--	--------------------------	--

X4.	On average, how many days do you drive in a week?	_____ Day(s)
-----	---	--------------

~ **Thank you for your co-operation!** ~

[Read out] Another staff of our company (Mercado Solutions Associates Ltd) may contact you later to re-confirm the interview that I have done or to clarify some questions. He/ she will ask a few questions only and will not disturb you for a long time.

Interviewer declaration

I hereby authenticate the data accuracy and integrity, and the interview was conducted by following the guidelines maintained by the international standard of market research.

Signature: _____

Date: _____

**Car Journey Speeds on Some Major Roads
near Central during Morning Peak on Weekdays (2008 – 2013)**

	Car Journey Speed (km/h)					
	2008	2009	2010	2011	2012	2013
Connaught Road Central <i>(from Des Vouex Road West to Murray Road)</i>	13.8	12.1	11.9	10.6	9.4	13.3
Connaught Road Central <i>(from Murray Road to Des Voeux Road West)</i>	17.7	15.2	14.3	14.4	14.3	15.0
Connaught Road Central Flyover <i>(from Des Voeux Road West to Rumsey Street)</i>	9.4	10.5	16.4	14.9	14.9	14.7
Des Voeux Road Central <i>(from Cleverly Street to Pedder Street)</i>	8.5	8.0	9.5	8.9	10.0	12.5
Des Voeux Road West <i>(from Western Street to Connaught Road Central)</i>	10.5	14.3	9.5	11.6	10.6	8.7
Chater Road <i>(from Pedder Street to Murray Road)</i>	8.8	9.2	10.3	8.3	9.3	10.2
Queen's Road Central <i>(from Garden Road to Possession Street)</i>	15.9	20.6	21.1	15.4	18.5	19.4

Control of the Impact of Road Works to Traffic Through the XP Mechanism

1. General

1.1 Road works, which may involve the improvement, maintenance and repair of the concerned road section or the underneath public utilities (e.g. water pipes, drainage pipes, gas pipes, power cables and telecommunication cables), are essential for the development of Hong Kong and the well-being of our daily lives. Utility Undertakings (“UUs”)¹ have to carry out road works to maintain and expand their utility networks so as to provide our daily necessities. Road construction and the associated road works for railway development are vital for maintaining Hong Kong as a world-class city. For the safety and comfort of road users, routine road maintenance and periodic rehabilitation of roads are required. In addition to the above planned road works, emergency road openings² may also be required for urgent repair works on underground utilities by UUs, such that the essential utility services can be resumed within a short period of time.

1.2 Given the benefits and genuine needs for the various types of road works, in controlling the impact of road works on road traffic, the focus should be on proper management and co-ordination amongst initiators of road works to minimise unnecessary obstruction to traffic rather than on reducing the number of road works per se.

2. Management of road works under the XP mechanism

2.1 Most road works involve excavation. According to the Land (Miscellaneous Provisions) Ordinance (Cap. 28), the works proponent needs to acquire an XP from HyD for making or maintaining an excavation on public roads. XP mechanisms have been established by HyD to manage and control the planned and emergency road excavation works³. Since the Road Traffic

¹ UU means any person, undertaking, company, organisation or Government department which supplies or provides utilities (including electricity, lighting, traffic control, telecommunications, cable television, gas, water, drainage, sewerage and tramway) and engages in any associated work.

² Emergency road openings usually cause greater traffic disruption than planned road openings. Proper routine maintenance under planned excavation works can help reduce the need for emergency road works and also minimise the traffic impact to road users.

³ Under Cap. 28, HyD may issue an emergency XP to a UU to carry out emergency excavations not longer than 7 days.

Congestion Study will only focus on recurrent causes of road traffic congestion, only the procedures within the XP mechanism for *planned excavation works* are presented in this note.

Planning stage

(a) Permit period assessment

2.2 After the registration of an application for an XP, the XP applicant has to go through the permit period assessment process which determines the permit period for carrying out the proposed works on site. Based on the assessment outcome, a reasonable time period is allotted to the applicant for completing the road works, thus avoiding unnecessary taking up of road space.

(b) Coordination of road works

2.3 If there are several different road works proposed to be carried out in close proximity to each other, the concerned XP applicants will be requested to participate in a *coordination process* before their XP applications can be approved. This process ensures any potential conflict amongst road works of different applicants can be identified and resolved as early as possible. More importantly, it can facilitate the coordination of concurrent or sequential implementation of the road works on the same road section. For example, when two UUs need to carry out works at the same location, UU A may leave the road section open upon completion, so that UU B can start its works immediately without extra drilling or opening. To avoid repeated openings on the same road section which may once a series of coordinated road works have been completed, *HyD will not issue an XP on the same road section within a period of three months except under urgent or unanticipated situations.*

2.4 Further, road openings will not normally be allowed within a period of five years for newly constructed carriageways and one year for newly constructed footways as all excavation works, such as laying utilities and road paving should have been coordinated and completed by relevant parties during the construction stage.

(c) Traffic advice from TD and the Police

2.5 Under the XP control mechanism, an XP applicant needs to consult TD and the Police for traffic advice. TD and the Police will scrutinise the TTM proposal submitted by the applicant to ensure that the traffic impact is minimised and acceptable. Where appropriate, specific TTM requirement from TD and the Police may be included as part of the XP conditions. For works on certain busy roads, TD and the Police may require an XP applicant to conduct Traffic Impact Assessment to substantiate its TTM proposal.

Works stage

2.6 During the works stage, different Government departments will put in place various monitoring and control measures to ensure that the ground works at the planning stage are properly executed.

(a) Road works advice from the Police

2.7 The Police requires the works proponent or its contractor to apply for a “Road Works Advice” before the works can commence on site. The Police will process the application having regard to the latest traffic conditions, and impose specific TTM requirement where necessary, in consultation with TD.

(b) Audit inspections by HyD

2.8 HyD has established an audit inspection team to carry out audit inspections on XP sites to ensure permittees’ compliance with XP conditions, including specific requirements on TTM. XP sites observed to be left unattended will also be recorded as a non-compliance with XP conditions. Whilst permittees will be notified to rectify non-compliance on site as soon as possible, contractors who execute the road excavation works in a manner not complying with the permit conditions could be held liable under Cap. 28.

(c) Additional fee for extension of XP period

2.9 As mentioned in **paragraph 2.2**, HyD will only allocate reasonable time periods to permittees for completing their road works. A special charging mechanism is set up to encourage the completion of the road works within the approved period. Under this mechanism, a permittee who anticipates that the road works could not be completed on time shall submit an application for extending the permit period. In addition to the administration fee for permit extension, he is also required to pay a penalty charge (ranging from \$1,500/day to \$18,000/day).

3. Use of innovative technologies in road works

3.1 HyD keeps abreast of and promotes the use of innovative technologies that can alleviate the impact of road works to traffic. For instance, the application of rapid hardening concrete or precast concrete panels can greatly reduce or eliminate the time required for curing of reinstated concrete pavement and hence reduce the time of road occupation. Use of thermal patcher can facilitate reinstatement of bituminous pavement located at busy roads with noise sensitive receivers, so that the works can be carried out at night. Trenchless technologies for utility works can also eliminate the need of open excavation on the road surface.

4. Conclusion

4.1 Road works are undeniably necessary for the development of Hong Kong and sustaining the well-being of our daily lives. It is also true that road works take up road spaces and may induce traffic impact in most cases. A sophisticated XP mechanism has been put in place to coordinate the implementation of various road works so as to minimise the impact on traffic. Continual adoption of new technologies (when site conditions are suitable) will help alleviate the traffic impact of road works.

Abbreviations

ALF	Annual Licence Fee
BBI	Bus-bus Interchange
CCPI	Composite Consumer Price Index
CWB	Central - Wan Chai Bypass and Island Eastern Corridor Link
DAR	Development on Anderson Road
EFPPCs	Environment-friendly Petrol Private Cars
ERP	Electronic Road Pricing
FRT	First Registration Tax
GMB	Green Minibus
HKI	Hong Kong Island
HyD	Highways Department
ITS	Intelligent Transport Systems
KLN	Kowloon
LegCo	Legislative Council
MTR	Mass Transit Railway
MTRCL	MTR Corporation Limited
NDAs	New Development Areas
NO ₂	Nitrogen Dioxide
NT	New Territories
PCs	Private Cars
PnR	Park-and-ride
POS	Public Opinion Survey
PT	Public Transport
ppsm	Person (Standing) Per Square Metre
PT Plan	PT re-organisation plan
PTIs	Public Transport Interchanges
PTSS	Public Transport Strategy Study
RDPs	Route Development Programmes

SCL	Shatin to Central Link
STEP	Selective Traffic Enforcement Policy
TAC	Transport Advisory Committee
TD	Transport Department
The Police	The Hong Kong Police Force
TIMS	Traffic and Incident Management System
TOR	Terms of Reference
TTM	Temporary Traffic Management
UUs	Utility Undertakings
VKM	Vehicle-Kilometres
Working Group	Working Group on Road Traffic Congestion
XP	Excavation Permit

