

**Legislative Council  
Panel on Environmental Affairs**

**The Contribution of Transport Policy Towards Sustainable Development**

**Introduction**

This paper sets out the steps that the Administration has taken to formulate and adapt transport policies to contribute towards sustainable development for Hong Kong.

**Background**

2. Sustainable development is a cross-sectoral concept which gives a new perspective to planning and decision making in both the public and private sectors. It should balance social, economic and environmental needs for the present and future generations, and thereby achieving a vibrant economy, social progress and better environmental quality, through the efforts of the community and the Government.

3. The Government is conducting a consultancy study on Sustainable Development in Hong Kong for the 21<sup>st</sup> Century (SUSDEV 21), which is scheduled for completion by the end of 1999. The study seeks to define the guiding principles for sustainable development, and to make recommendations on how best to integrate sustainability in Government's decision making process. In the area of transport, the main issue is how to provide the mobility of people and goods required for economic and social vitality without undermining environmental quality. The work being done under SUSDEV 21 will help guide and assess specific planning studies and policy proposals, in the area of transport as well as in other policy areas, to ensure that they take full account of the overall objective of sustaining Hong Kong economically, environmentally and socially.

## **Present Situation**

4. An efficient transport system is essential to support a strong and prosperous economy as well as good quality of life. The way we travel, however, also results in impacts to the environment, particularly air and noise pollution. In Hong Kong, in terms of volume, vehicles emit 7% of sulphur dioxide, 45% of nitrogen dioxide and about 50% of the particulate from all combustion sources. However, motor vehicles, particularly diesel vehicles, are the dominant sources of air pollution in the urban areas. Fumes and smoke emitted from vehicles are the principal sources of roadside respirable suspended particulate and nitrogen dioxide.

5. In 1989, we were unable to meet all air quality objectives for total suspended particulate, respirable suspended particulate and sulphur dioxide. We also did not meet the objective for incidents of short term maximum exposure for nitrogen dioxide, although we were meeting the objective for annual average exposure. Objectives for ozone, carbon monoxide and lead were met.

6. As a result of tightening of vehicle fuel and emission standards in recent years, we are beginning to see an improving trend. In 1997, we met the objectives for incidents of short term maximum exposure to total suspended particulate and respirable suspended particulate, although the objectives for annual average exposure for both of these pollutants were still not being met. We also met all the objectives for carbon monoxide, ozone and lead. Sulphur dioxide levels are now well below all objective levels and continue to decline as tighter standards for vehicle fuels and vehicle emission performance take effect.

7. Hong Kong's current air quality is comparable to other major cities such as London, Boston and New York. However, due to our high vehicle density and high usage rate of diesel vehicles, our level of respirable suspended particulate is higher than many of the world cities.

8. Traffic movements also cause noise problem. Hong Kong is geographically a small city with a very high population density. Due to the close proximity between residential areas and major roads, excessive traffic noise is a problem especially along older traffic corridors.

## **Tackling Existing Problems**

9. We realise the need to tackle the problem of vehicle emissions and noise pollution to ensure a healthy and sustainable environment. The Government is implementing a series of policies and mitigation measures to help improve Hong Kong's air and control the noise generated by traffic flow. Paragraphs 10 to 12 below elaborate on these measures.

### **A) Emission Control and Alternative Fuels**

10. Government has a standing policy to impose the most stringent established emission standards on all newly registered vehicles. Our emission requirements for motor vehicles and motor fuels are now on a par with those of European Union and are the most stringent in Asia. We are also working to raise the maintenance standard of in-use vehicles. We require randomly selected commercial vehicles to undertake an enhanced smoke emission test during their annual road worthiness inspection. In addition, we are aiming at introducing in mid-1999 an advanced smoke test for smoky light diesel vehicles and extending the test to cover larger diesel vehicles in 2000. We are also closely monitoring the development in motor vehicle emission control technology and vehicles operating on alternative fuel. Once those technologies become practicable options, we will study the feasibility of introducing them to Hong Kong.

11. We have just completed a consultation exercise on the proposal for a full scale introduction of LPG taxis in Hong Kong. The feedback is overwhelming in support of the scheme as part of Government's efforts to improve air quality. We will work closely with the taxi trade and other relevant parties to ensure that the operating cost of LPG taxis will not be higher than that of diesel taxis, and that there will be timely supply of adequate filling stations, maintenance workshops and vehicles mechanics to support the progressive switch from diesel to LPG taxis. As the next step, we will examine the technical feasibility of expanding the LPG option to other types of vehicles such as minibus.

### **B) Noise Control Measures**

12. To control the noise generated from individual vehicles, all newly registered vehicles are required to comply with the stringent European and Japanese standards. All new rail and road projects are required to undergo

environmental impact assessments at their planning stages and, where necessary, noise mitigation measures are required to be incorporated. We are resurfacing some of the busy roads with quieter road surfaces and are also studying the feasibility of retrofitting noise barriers on some of the existing roads.

## **Planning for Sustainable Development**

13. It is not enough simply to address the existing emission and noise problems as the benefits of the relevant mitigating measures will very quickly be off-set by the increase in the number of vehicles on the roads. Simply building more and more roads is also not the answer to traffic growth. We will need better coordination between transport and land use planning to reduce the need for travel and minimise conflict between pedestrians and vehicles. We will also need an integrated approach in transport policy to reduce congestion and pollution, to enable commuters to move easily from one mode of transport to another, and to provide a more safe and pleasant environment for pedestrians. This approach involves having railways, which are efficient and environmentally friendly carriers, as the backbone of the public transport network to serve major corridors which have the heaviest traffic flow. We will improve public transport services, enhance co-ordination between various transport modes and will build more pedestrian walkway systems to provide more safe, uninterrupted and convenient passageways for pedestrian movements. Relevant transport management measures will also be taken to minimise the use of private vehicles on the roads. Paragraphs 14 to 24 below set out our strategy towards a sustainable transport planning in greater details.

## **Better Coordination between Transport and Land-use Planning**

14. Through better coordination between transport and land use planning, we can reduce the need to travel. The Territorial Development Strategy Review (TDSR) has already set out a broad, long-term land use, transport and environmental planning framework within which the necessary land, community facilities and infrastructure can be provided. It has addressed, among other things, the need to improve the distribution of population and jobs in a way that helps to minimise the need for travel and, at the same time, concentrates development in a well designed way within

the walk-in catchment areas of public transport nodes. Strategic transport studies such as the Third Comprehensive Transport Study (CTS-3) and the Second Railway Development Study (RDS-2) take into account the TDSR to formulate an integrated and up-to-date transport strategy as a guide to the planning of the future transport framework for different parts of the Territory.

### **According Priority to Railway**

15. Railways are efficient mass carriers which provide speedy, comfortable and reliable services. They ameliorate the environmental problems associated with road traffic, and help reduce the pressure on the limited road space. We are making massive investment to expand the railway network in Hong Kong. Five new railway projects with a total investment of over \$120 billion are under active planning and implementation. They include West Rail Phase I, MTR Tseung Kwan O Extension, Ma On Shan railway, KCR Tsim Sha Tsui Extension, and the Sheung Shui to Lok Ma Chau spur line. These five new projects will be completed in the period from 2002 to 2004, extending the total length of Hong Kong's rail network to over 200 km, representing a 40% increase in our present railway network. In implementing the railway projects, we will also give careful consideration to the design of stations and the associated interchange facilities (e.g. public transport interchanges, park and ride facilities etc.) to facilitate passengers of other modes of transport to interchange to railways.

16. We will continue to accord higher priority to railways in the future development of transport infrastructure - one of the guiding principles in CTS-3. We will also investigate the next generation of railway projects and the use of rail for cross-boundary container freight movements in the context of RDS-2.

### **Improve Public Transport Services**

17. The Government has been improving public transport services to discourage people from using private transport. Average daily passenger trips using the various public transport modes amounted to some 10.7 million in the first ten months of 1998 - a 6% increase from 10.1 million in

1993. We will continue with our efforts to encourage more people to use public transport by building more convenient transport interchanges and improving coordination between the public transport modes. We hope to increase the daily public transport patronage by 1% in 1999.

18. To meet rising expectations, the expansion of franchised bus services has aimed at providing more comfortable, frequent and direct services. Accordingly, the bus fleets have grown to meet demand. As our limited road space cannot satisfy unrestrained growth in vehicle traffic, it is necessary for the Government to keep bus networks under constant review and where necessary introduce rationalization measures. Bus-bus interchanges are identified as one possible means of promoting efficient use of bus resource and reducing the number of buses on the road. The two bus-bus interchanges currently located near the tolling plazas of Shing Mun Tunnel and Tai Lam Tunnel have functioned well. We will consider introducing similar interchanges at suitable locations in the future.

### **Effective Traffic Management**

19. Effective transport management is essential to make the best use of the limited road space. The Transport Department has commissioned a study on the provision, management and operation of traffic control and surveillance facilities for the Strategic Road Network (SRN). The study, to be completed in 1999, aims to identify Intelligent Transport System (ITS) technologies that will enhance the efficiency of our SRN and reduce pollution due to congestion.

20. Park and Ride is another traffic management measure that can help relieve congestion in the urban areas. We have started a Park and Ride scheme in Sheung Shui in December 1997 and are considering the possibility to provide more park and ride facilities in other strategic railway stations.

### **Restraining Ownership and Usage of Vehicles**

21. Higher priority should be accorded to more efficient transport modes. Our aim remains to limit the growth of private cars by encouraging more people to use public transport services. We will continue with the existing financial disincentives imposed on car ownership. Should all traffic

management measures fail to keep the growth of private vehicles within a sustainable rate, we will consider further restraint measures on vehicle ownership and usage, subject to their being acceptable to the public.

### **Pedestrian Walkway Systems and Pedestrianized Areas**

22. Pedestrian walkway system provides a safe, uninterrupted, convenient, and pleasant passageway for pedestrian movements. We will build more pedestrian walkway and footbridge systems to attract more people out of vehicular modes for shorter and medium journeys and to reduce conflict between pedestrians and vehicular traffic. The Transport Department has identified two priority pedestrian walkway system projects, one in Central, Admiralty and Wan Chai North, and the other one in Tsuen Wan. Planning works for these two projects are expected to be completed in 1999. We will keep under regular review the need for pedestrian walkway systems in areas of particularly heavy vehicular and pedestrian traffic. The Transport Department is also working on new planning guidelines and standards for the provision of a more comprehensive pedestrian walkway network in new development areas.

23. We also plan to develop more pedestrianized areas. There are already a number of such areas operating on Sundays and Public Holidays in Central, Mongkok and Jordan. We are actively looking into possible schemes in other busy pedestrian areas such as Causeway Bay. However, there is always a need to balance the need of different road users and we have to ensure that pedestrian schemes, while benefiting pedestrians, do not cause unacceptable vehicular traffic congestion and unacceptable impact on the loading and unloading activities of commercial premises.

### **Environmental Assessments Made in Strategic Transport Planning Studies**

24. The two long term strategic studies currently being conducted to map out the future transport developments, i.e. CTS-3 and RDS-2 include Strategic Environmental Assessments (SEA) to evaluate the environmental implications of different transport strategies and identify appropriate improvement measures where necessary. SEAs are new initiatives as part of the Government's efforts to help develop a sustainable transport policy.

## **Education**

25. Establishing modes and patterns of transport that will contribute towards a sustaining environment and economy for Hong Kong requires understanding and active choices by every Hong Kong resident. The need for mobility is well understood. The effect of rapid growth in private cars, public buses and goods vehicles, and of poor standards of vehicle maintenance on roadside air quality is also well understood. Willingness to pay to maintain vehicles properly, to drive better, or to support stronger action to improve environmental performance where this might involve higher visible costs has so far been limited. More effective education is needed to inform people about the hidden costs to health, to economic efficiency and to the capacity of the environment to sustain us, so as to secure support for the sometimes difficult choices that are needed to ensure better environmental performance and continued mobility.

26. The Administration, together with a number of concerned organizations and individuals, the Environmental Campaign Committee and the Healthy Living Steering Committee, are working to deepen public understanding and willingness to act at two levels. First is with respect to changes in behaviour that can be made now, such as ensuring that engines are better maintained, following better driving practices, turning off engines when waiting, using public transport in preference to private transport and more energy efficient transport such as trains and trams. Second through identifying more clearly the costs to the community of failure to meet environmental objectives and identification of choices for change in transport patterns and technologies that may help to achieve acceptable mobility and environmental quality.

27. The first area of education is being pursued through publicity materials, campaigns and by enforcement action against badly maintained vehicles. The second area is being developed through environmental research and through studies such as SUSDEV 21 and CTS-3. A green paper on environmental policy, setting out many of the issues and practical choices that will need to be made to move towards more sustainable development is going to be published towards the end of 1999, to help take forward community education and discussion.

## **Conclusion**

28. Economic and social developments are served by increased mobility, but it is clearly undesirable if that mobility is provided through transport systems that undermine environmental quality, individual health and the attractiveness of the city as a place in which to live and work. We are implementing a number of mitigation measures to improve the current environment situation and incorporate environmental assessments in our long term strategic transport planning studies to ensure that our transport development contributes effectively to sustainable development. To help that process, we are adopting an integrated approach to:

- i) better co-ordinate transport and land use planning to reduce trip generation, to maximise the use of higher efficiency public transport modes, and to reduce impacts of vehicular traffic;
- ii) further develop efficient public transport based around rail and other transport modes that have lower environmental impacts so that the potential of these transport modes will be maximised and people can move easily between them;
- iii) to ensure that our transport choices support a better environment;
- iv) consider new transport technologies and new approaches to traffic management; and
- v) continue to increase public understanding of the impacts of present transport arrangements and assumptions about vehicle use, so as to promote understanding of the need for change.

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