

LEGISLATIVE COUNCIL PANEL ON TRANSPORT

Progress Update on the Intelligent Transport Systems

INTRODUCTION

This paper reports on the progress of the development and implementation of Intelligent Transport Systems in Hong Kong since May 2002.

BACKGROUND

2. According to the recommendations of the Intelligent Transport Systems (ITS) Strategy Review Study conducted by Transport Department (TD) in 2000/01, a centralised Transport Information System and a more comprehensive Traffic Management Framework should be established to enhance traffic throughput and safety of our road network. An information paper was circulated to Panel Members on 24 May 2002, updating the progress of the implementation of the core projects recommended by the ITS Strategy Review. Since then, the Administration has pressed ahead with the core projects and collaboration with the private sector in the provision of value-added ITS services. Progress is reported below for Members' information.

TRANSPORT INFORMATION SYSTEM (TIS)

3. The TIS is a centralised data warehouse for the collection, processing and dissemination of comprehensive transport information. It will provide two main services, namely, a Public Transport Information Service (PTIS) and an Intelligent Road Network (IRN).

4. The PTIS will be a free service on the Internet providing transport and traffic information to the public transport users and motorists for pre-trip planning. The public may also have access to the traffic information through the customer service centres provided by public transport operators or mobile phones via service providers. The PTIS will be implemented in two phases. Upon completion of the first phase, the public can get access to transport information on buses and railways such as service schedules, locations of stops and routing details by clicking their set off points and destinations on a digitised map. Such service will be further furnished and enhanced in the second phase to allow the public to search for their optimum routes based on least distance, least cost or least interchange.

For motorists, they can search for their optimum driving routes on the digitised map based on options such as least distance or minimum tunnel or bridge toll.

5. The IRN will provide up-to-date information on traffic directions, turning movements at road junctions and stopping restrictions, etc. Such information will supplement the digitised map provided under the PTIS in facilitating motorists to make pre-trip planning. Upon completion of the IRN, value-added service providers in the private sector, including telecommunication companies, fleet and freight operators, logistic and IT organisations, can make use of the information for the development of other ITS applications such as car navigation, fleet management systems and personalised information services to the public. So far, over 10 IT companies, telecommunication companies and fleet management companies have already expressed interest in deploying such traffic information in their business.

6. Tenders for the implementation of the TIS were received in July 2002. The Administration is currently engaged in resolving the counter-proposals put forward by the tenderers. It is anticipated that the tender can be awarded by May this year. The first phase of the PTIS and the IRN will be ready for operation in early 2004 while the final phase of the PTIS will be completed within 6 months following the commissioning of the first phase.

TRAFFIC MANAGEMENT FRAMEWORK

7. The proposed Traffic Management Framework includes the Area Traffic Control Systems, Traffic Control and Surveillance Facilities on strategic roads, a Journey Time Indication System, Traffic Control Centre and Traffic Management and Information Centre.

Area Traffic Control (ATC) System

8. The ATC System is a computerised system that integrates the control and operation of traffic signals within a district according to the prevailing traffic conditions. The existing ATC Systems cover the urban areas and the new towns of Tsuen Wan, Kwai Tsing, Sha Tin and Ma On Shan.

9. Following the funding approval by the Finance Committee (FC) in May 2001, the implementation of the ATC System for the Tai Po and North Districts has been progressing well. It is scheduled for operation by early 2004.

10. Funding for the renewal of the ATC and Closed Circuit Television (CCTV) Systems on the Hong Kong Island was approved by FC in December 2002. Tenders for this project will be awarded by mid 2003 to enable the renewed systems to start operation by November 2005.

Traffic Control & Surveillance (TCS) Facilities on Strategic Roads

11. TCS facilities including CCTV cameras, variable message signs and lane control signals will facilitate TD in monitoring traffic condition, detecting traffic incidents, providing motorists with traffic information and diverting traffic whenever necessary. It is our target to install comprehensive TCS facilities on the approach roads to Disneyland in Penny's Bay by 2005 and other major expressways including Shenzhen Western Corridor, Deep Bay Link and Route 9 that will be completed between 2005 and 2008.

12. For the existing strategic roads including Tuen Mun Road, Kwai Chung Container Port Road, West Kowloon Highway and North Lantau Highway, CCTV cameras have already been provided. To better manage our cross-boundary and freight traffic, we have also extended the CCTV system to the approach roads to the three land boundary crossings and Tuen Mun River Trade Terminals in 2002. Additional CCTV cameras will also be installed along the Tolo Highway and Island Eastern Corridor for operation by late 2003. New strategic roads including Road 5 Extension in Tsuen Wan, Road T3 in Shatin and Yuen Long Highway Widening coming on stream between 2005 and 2007 will also be provided with CCTV cameras to better monitor and manage the traffic flow.

Journey Time Indication System (JTIS)

13. The JTIS is designed to advise motorists of the estimated journey time for travelling to Kowloon via the three cross-harbour tunnels. Digital indicators will be installed ahead of critical traffic diversion points on the approach roads leading to the three cross-harbour tunnels so that motorists can make an informed choice on the route to be taken based on the latest traffic situation.

14. The first digital indicator at Gloucester Road eastbound near Revenue Tower has been installed in February 2003. Associated construction works and equipment testing are in progress. This indicator will be put into operation in April 2003. The remaining two indicators at Canal Road Flyover northbound

near the exit of Aberdeen Tunnel and Island Eastern Corridor westbound near City Garden are in the pipeline for operation by May this year.

Traffic Control Centre (TCC) and Traffic Management and Information Centre (TMIC)

15. Upon completion of the TCC by early 2004, it will serve as the central control centre for the existing and future ATC and CCTV systems in the New Territories, the JTIS, and the TCS facilities for Shenzhen Western Corridor and Deep Bay Link. It will also serve as the Emergency Transport Coordination Centre. The establishment of the TCC will enable better coordination of the ATC and CCTV systems in the New Territories and the various traffic management systems. It will also provide valuable experience to the future TMIC which will coordinate territory-wide traffic and incident management and control all ATC systems and TCS facilities on strategic roads.

VALUE-ADDED ITS SERVICES

16. Real time information on traffic conditions would assist motorists in making pre-trip planning so that they can avoid travelling to congested areas, thereby enhancing the utilisation of the road network and facilitating smooth vehicular movement. At present, the traffic condition images captured by the CCTV cameras are provided to TV stations for broadcast and are uploaded onto the Internet for free access.

17. In the past few months, TD has been in discussion with several telecommunication companies to explore the feasibility of live broadcast of the real-time traffic information captured by the CCTV system to mobile phone users. It is our intention to provide the CCTV images to telecommunication operators free of charge provided that no additional charge will be imposed on their clients for such information. The Administration has just issued invitations to all telecommunication companies in Hong Kong asking for expression of interest in such a service.

18. In addition, the number of CCTV images available on TD's homepage will increase from 43 to 109 by late 2003. By then, real-time traffic condition at most of the strategic locations will be made available to road users both on the Internet and other channels like TV and mobile phones.

CONCLUSION

19. The main objective of our ITS strategy is to provide more accurate traffic information to public transport users and motorists for the planning of their routes in advance according to their own needs, and to transport operators and other service providers for further enhancement of their services. This will in turn facilitate better utilisation of road and transport capacity and help improve the efficiency and safety of our transport network. The Administration will continue to enhance the application of IT to transport management and facilitate the private sector in the development and implementation of ITS applications and services.

FOR INFORMATION

20. Members are invited to note the progress of the development of ITS in Hong Kong as reported in the paper.

Environment, Transport and Works Bureau
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