

For information

Legislative Council Panel on Transport

**Progress in Implementing the Recommendations
of the Task Force on Emergency Transport Coordination**

Introduction

This paper reports on the progress in implementing the recommendations put forth by the Task Force on Emergency Transport Coordination (the Task Force).

Background

2. The Task Force appointed by the Secretary for the Environment, Transport and Works following the serious traffic congestion in Kowloon on 9 May 2005 has mapped out 56 recommendations (summary at **Annex**) to refine and align the crisis management arrangements, enhance communication and coordination both within and between departments, harness advanced technologies for better traffic management, and take all possible steps to disseminate traffic information to the public in a timely manner.

3. In July 2005, we briefed Members on the improvement measures that we have put in place and the implementation plan to take forward the recommendations in the short to longer term vide Panel Paper CB(1)2076/04-05(03). Since then, we have continued our efforts in taking forward the recommendations of the Task Force. The latest progress is set out in the ensuing paragraphs.

Progress Report

Contingency Plans : Ongoing
(Recommendations 1 and 2)

4. The Transport Department (TD) has developed a set of contingency plans for the opening of Hong Kong Disneyland and the MTR Disneyland Resort Line, the Sixth Ministerial Conference of the World Trade Organization

(MC6) and the opening of Asia-World Expo in the second half of 2005. TD will continue to review and refine existing generic contingency plans for major traffic and transport incidents and develop more contingency plans for incidents on major routes. TD also organises and conducts regular and ad-hoc emergency drills with public transport operators, tunnel and bridge operators and relevant Government departments. To prepare for MC6, drills were held in late 2005. Drills for other events will continue to be conducted in the future.

Data Collection : Mostly done; Further Study to be Conducted on the Use of Loop Detectors

(Recommendations 3 – 9)

5. TD now uses a digitised incident map system to collate information from different sources to assess the severity and spread of congestion. This has proven to be an effective tool to facilitate incident management. TD will continue to refine the system in the light of operational experience, and explore the use of map and database with built-in Geographical Information System (GIS) to enhance the efficiency of producing incident maps to illustrate real-time traffic situation under a Feasibility Study on Incident Management (details in paragraph 24 below).

6. As regards the use of loop detectors to collect real-time traffic information, TD's preliminary finding is that such detectors cannot collect information of sufficient detail and accuracy for incident management, and that there is no provision for collected data to be exported to a foreign system. TD will further examine the feasibility of using loop detectors to collect real-time traffic information under the aforesaid Feasibility Study.

7. TD now uses third-generation mobile phones to transmit images of roads or incident sites. This method has proven to be useful and will continue to be used to supplement the images captured by closed-circuit television (CCTV) cameras. In addition, mobile CCTV facilities have been made available since May this year. Moreover, TD is planning to install 260 additional CCTV cameras in the coming five years at strategic locations along major corridors to enhance the coverage of the CCTV system.

8. In parallel, TD has been exploring the use of various vehicle tracking technologies to measure the travel time and speed of the road network. We plan to extend the Journey Time Indication System, which now covers 3 major approaches on Hong Kong Island to the harbour crossings, to the Kowloon approaches to provide more information to motorists.

Assessment of the Situation : Done; To be Improved Continuously
(Recommendations 10 – 13)

9. TD has promulgated the Handbook on Handling of Emergency Traffic and Transport Incidents (“the Handbook”) in December 2005. The Handbook provides guidelines to streamline all stages of incident management and stipulates the requirements of providing realistic assessment of the time required for remedial works. An inter-departmental briefing was conducted in February 2006 to further explain the new procedures for handling emergency traffic and transport incidents to staff of concerned Government departments. The Handbook will be updated as and when required.

10. In addition, during the MC6 period, TD has put in place a real-time web-based incident management communication system to allow officers of TD and other departments to obtain an overview of the incidents and to appreciate the wider implications of their actions.

Incident Management : Partly done; Study to be Conducted on the Use of Advanced Technologies
(Recommendations 14 – 18)

11. The inter-departmental communication system set up during MC6 had proven to be an effective and efficient platform for sharing real-time information. TD will consider further upgrading of the system. TD will explore the feasibility of developing a computerised expert-system-based incident management system with an automated incident database and a real-time dispatch system to facilitate incident management under the Feasibility Study.

12. TD has consulted the local academia on the use of traffic models in real-time assessment, and recognises that there are practical difficulties in using traffic models for such purpose. However, traffic models could be used for developing and testing contingency plans.

13. It is now a standard practice for departments to conduct debriefings for major incidents and emergency drills, so that lessons learnt from an incident can be consolidated for future reference to enable better handling of similar situations in the future.

Measures to Facilitate Diversion : Done

(Recommendations 19 – 23)

14. TD will continue to provide more information to motorists on alternative routes and enhance the content of traffic advice. TD has also made arrangements with radio stations to make more frequent broadcasts of emergency traffic news. In addition, TD has established multiple channels, such as through large employers with over 500 staff, for information dissemination during MC6. Efforts in this area will continue.

15. In addition, TD has worked with different bus operators to formulate bus diversion routes, triggering points for route diversion and mechanism to seek assistance from other operators in case of major incidents. Bus companies have also enhanced training for regulators such that the latter may know how to direct bus drivers and advise commuters in cases of emergency.

16. TD will examine in detail the need for and the feasibility of providing additional emergency openings at central dividers of major roads when developing contingency plans.

Recovery Management : Ongoing

(Recommendations 24 and 25)

17. TD will continue to adopt traffic management measures after the clearance of an incident to ensure that traffic will return to normal in a smooth and swift manner. In addition, it will enhance the use of area traffic control systems to adjust traffic signals for effective queue management and dissipation.

Internal Communication Within a Department : Done

(Recommendation 26)

18. Following the promulgation of the Handbook, departments have revised their internal circulars to ensure that there would be effective internal communication.

Inter-departmental Coordination : Done; To be Improved Continuously
(Recommendations 27 – 32)

19. TD has reviewed and fine-tuned its emergency transport arrangements and promulgated the Handbook in December 2005. All relevant departments have been requested to review their internal circulars to align the emergency handling procedures with those set out in the Handbook to facilitate communication and coordination. The concept of dividing incident management into different stages has also been incorporated into the Handbook. The Handbook and other internal circulars will be circulated and updated regularly. TD has also conducted briefing/experience-sharing sessions with concerned Government departments to facilitate better understanding of the new procedures. Efforts in this area will continue.

20. In addition, TD has discussed with the local academia possible improvements to incident management, including the means of data collection and information dissemination. Their views and suggestions will be incorporated into the Feasibility Study.

Designated Communication Channels Between Departments : Partly done; Study to be Conducted on Computer Aided Dispatch System
(Recommendations 33 and 34)

21. TD has updated all the emergency contact points provided by Government departments when it compiled the Handbook. The contact numbers will be updated regularly. In addition, an in-house web-based communication system has been launched to enhance dispatch coordination. TD will also explore the feasibility of developing an advanced inter-departmental computer-aided dispatch system in the Feasibility Study.

Role of Emergency Transport Coordination Centre (ETCC) : Done
(Recommendations 35 – 37)

22. The Joint Steering Mode has been adopted on a number of occasions, including MC6, and has proven to be effective for major incidents and planned events.

Facilities of ETCC : Done; To be Improved Continuously

(Recommendation 38)

23. TD has improved the facilities of the ETCC, including establishing a web-based inter-departmental communication system, a digitised incident map system, a portal for traffic information dissemination, improving the CCTV system on Hong Kong Island and procuring additional 3G phones to enhance its monitoring capability. Additional information technology equipment has also been installed at the ETCCs (both at TD's Headquarters on Hong Kong Island and at the Centre in Kowloon). TD will investigate the feasibility of developing a GIS-based computerized system to facilitate inter-departmental coordination in the Feasibility Study.

Use of Technologies in Crisis Management : Further Study to be Conducted on the Use of Advanced Technologies

(Recommendations 39 and 40)

24. TD has updated the Intelligent Transport Systems strategy, taking into account the latest developments and the Task Force's recommendations. In addition, TD will commission a Feasibility Study on Incident Management early next year, the scope of which will cover the following areas –

- (a) use loop detectors underneath roads to collect real-time regional traffic data;
- (b) develop an automatic incident database to facilitate incident management;
- (c) explore the use of traffic simulation models to assess the traffic impact of incidents;
- (d) develop a computerised expert-system-based incident management system; and
- (e) develop a shared computer-aided dispatch system to enhance inter-departmental dispatch coordination.

25. We expect that the above Feasibility Study will be completed in late 2007. Depending on the outcome of the study, TD will decide whether and how to apply these technologies to enhance our capability in incident management.

Timely Dissemination of Information : Mostly done

(Recommendations 41 – 53)

26. TD revamped its homepage on 11 August 2005 to provide more effective means of information dissemination. Most of the real-time traffic information is now available in formats compatible with mobile phones and personal digital assistants to facilitate members of the public to obtain the latest traffic information. In addition, TD has also introduced a Traffic Speed Map on the internet to show the journey time and average vehicular speed along major approach roads to the three road harbour crossings on Hong Kong Island. TD will further investigate the development of GIS-based maps to facilitate dissemination of real-time traffic information under the Feasibility Study.

27. TD has agreed with the Integrated Call Centre (ICC) that in case of major incidents, TD would inform ICC of all information related to the incident so that the information can be disseminated to the public. In addition, TD has established an Interactive Voice Response System during the MC6 period to provide real-time traffic information. The system will be re-activated in case of major planned events with traffic implications.

28. As regards the setting up of a designated radio broadcast channel for traffic news, according to the Office of the Telecommunications Authority, the Radio Data System technology, though available in Hong Kong, is not user-friendly. There has to be a broadcasting station and users are required to subscribe to the service with specially designed radios. Alternatively, TD has requested radio and television stations to increase the frequency of traffic information broadcasts. Live interview for both radio and television stations will be arranged if necessary. TD will also arrange media briefings in case of prolonged and serious incidents.

29. TD has been informing employees of 130 organisations with more than 500 employees (including 50 Government departments) of special traffic news through email. TD has also requested the Real Estate Developers Association of Hong Kong and Hong Kong Association of Property Management Corporations to examine with their members the idea of disseminating incident information to people in major buildings and arcades. One of the major property management corporations has agreed to disseminate emergency traffic news via displays and notices put up at their shopping malls, office towers and residential properties during office hours. In addition, TD is exploring with radio stations and internet service providers the feasibility of disseminating emergency traffic news via outdoor video display units at major shopping malls and websites etc.

30. TD has explored different technologies of broadcasting traffic information and CCTV images through the mobile phone network in consultation with the Hong Kong Wireless Development Centre and mobile network operators. It has been concluded that cell broadcast is not a viable option for dissemination of emergency traffic information.

31. TD will continue to cooperate closely with bus and railway companies to inform passengers of emergency news through display panels at bus termini and public announcement systems in train compartments and railway stations in case of serious traffic incidents. In addition, during the MC6 period, arrangements were made with two major urban taxi associations to establish dedicated telephone and fax lines for exchange of traffic information. TD will consider adopting similar arrangements in future for major events.

32. The Kowloon-Canton Railway Corporation will include news about major traffic incidents in programmes displayed on its on-train Passenger Information Display System. The MTR Corporation Limited (MTRCL) will continue to use in-station and in-train broadcast to keep passengers informed of emergency news. MTRCL will also announce major traffic and transport incidents at their station concourses and post notices at station exits to inform passengers of major transport emergency arrangements in the nearby areas and advise passengers to use alternative modes or exits, if required.

33. TD is also planning to install more variable message signs at strategic locations and junctions, and will explore the feasibility of using mobile message signs.

Clarity and Effectiveness of Messages : Done; To be Improved Continuously
(Recommendations 54 and 55)

34. TD has sought assistance from RTHK and the Police to revise the messages to be disseminated during transport emergencies. New formats of emergency traffic advice have been adopted. It is also an on-going practice for TD to indicate the reopening time of the road wherever such is possible.

Delineation of Duties Between TD and the Police : Done
(Recommendation 56)

35. The Police and TD have agreed on the procedures to enhance coordination between them to avoid causing confusion to the mass media and the public. For example, the Police Public Relations Branch and TD will

inform each other of all press releases that they have issued and clarify details where necessary.

Advice Sought

36. Members are invited to note the contents of this paper.

Environment, Transport and Works Bureau
August 2006

Summary of Recommendations

Contingency Plans

1. Develop contingency plans for closure of or congestion occurring on traffic sensitive or public transport sensitive routes. The plans should include diversion options, signal control strategies, manpower and logistics requirements.
2. Conduct regular emergency drills to test the efficacy of the contingency plans and to ensure that staff are familiar with the procedures.

Data collection

3. The Police and the Transport Department (TD) to update and supplement each other on traffic information.
4. Use an incident map to collate information from different sources to assess the severity and spread of congestion.
5. Explore the feasibility of using loop detectors underneath the roadway to collect real-time traffic data. If it is feasible, consider widening the coverage of these detectors along traffic sensitive or public transport sensitive routes in the future.
6. In the longer term, improve the coverage of Closed-Circuit Television (CCTV) system, especially along traffic sensitive or public transport sensitive routes.
7. Examine the feasibility of deploying mobile CCTVs to make the data collection process more effective.
8. Explore the feasibility of deploying a fleet of probe vehicles, probably buses and other public transport vehicles installed with Global Positioning System, to measure the network travel time and speed.

9. Examine the possibility of developing a system based on Geographical Information System to display real-time traffic information in the form of a Traffic Speed or Queue Map for early detection of incidents and formulation of diversion and signal control plans.

Assessment of the Situation

10. Provide realistic assessment of the time required for remedial works, where practicable, to facilitate decisions on transport and traffic management.
11. Inform TD and the Police if an estimate of the time required for remedial works could not be provided, so that they can devise suitable traffic and transport plans.
12. Provide officers at the scene with sufficient guidance, such as checklists and guidelines, to enhance their judgement and assessment.
13. Make officers aware of the macro-picture and the wider implications of their actions, and inaction.

Incident Management

14. Store records involving the types of incidents, duration, clearance time, responses, etc in the Incident Database for evaluation and analysis to improve the accuracy of traffic impact assessment.
15. In the longer term, develop a real-time computer-aided dispatch system. The process of maintaining the Incident Database can be automated for easy access and retrieval.
16. Develop traffic models and apply them to provide a priori estimates of traffic impact in terms of delay, spread and extent of congestion, based on actual cases in the Incident Database, as well as contingency plans developed.

17. Conduct debriefings so that lessons learnt from an incident can be consolidated for future reference to enable better handling of similar situations in the future.
18. Explore the feasibility of developing a computerised expert-system- based incident management system to monitor incidents and help select and implement pre-programmed signal control strategies or diversion plans based on contingency scenarios and lessons learned from past incidents.

Measures to Facilitate Diversion

19. Give more information and guidance to motorists on the alternative routes to facilitate diversion arrangements.
20. Establish arrangements with public transport operators to ensure that bus route diversions are feasible and acceptable to passengers on board.
21. Improve the information disseminated to passengers if bus route diversions are needed.
22. Strengthen the role of the bus regulators engaged by the bus companies to liaise with passengers under emergency situations. Provide them more training and clear guidelines for handling traffic congestion and incidents.
23. Consider whether and how to increase the provision of emergency openings at central dividers at intermittent locations of major roads, taking into account the financial and safety implications.

Recovery Management

24. Continue to adopt traffic management measures after the clearance of the incident to ensure that traffic will return to normal in a smooth and swift manner.

25. Continue to monitor the traffic condition in the affected region and adjust the traffic signals through the Area Traffic Control system for effective queue management and dissipation.

Internal Communication within a Department

26. Establish a mechanism within each department for officers at the scene to escalate the issues and for senior officers to deploy resources, monitor the developments and give timely directives.

Inter-departmental Coordination

27. Review and fine-tune emergency transport arrangements having regard to the experience gained on 9 May 2005.
28. Bring the transport emergency arrangements to the attention of other departments, especially frontline officers, and re-circulate the guidelines on a regular basis.
29. Review internal circulars to set out the designated roles of different departments and highlight the importance of considering the traffic implications of an incident as well as alerting TD as early as possible.
30. Align emergency handling procedures of different departments to facilitate communication and coordination.
31. Adopt the concept of dividing incident management into different stages and look for ways to streamline actions at each stage.
32. In the longer term, invite universities or consultants to propose improvements to Hong Kong incident management system, making reference to overseas system if resources permit.

Designated Communication Channels between Departments

33. Establish designated communication links among different departments to expedite remedial works.

34. In the longer term, enhance inter-departmental dispatch coordination through the development of a shared computer-aided dispatch system.

Role of the Emergency Transport Coordination Centre

35. The Emergency Transport Coordination Centre (ETCC) to take up a more proactive coordination role to handle transport and traffic incidents. Set up the Joint Steering Mode at ETCC to improve communication and allow joint steer from senior officers from the Police and TD.
36. Make available a directorate officer of the Environment, Transport and Works Bureau to station at ETCC under the Joint Steering Mode to enhance coordination with other bureaux and the senior echelon.
37. Where necessary, make available senior officers of other supporting departments to station at ETCC or be available on line to facilitate the communication and decision-making process.

Facilities of the Emergency Transport Coordination Centre

38. Upgrade the facilities of ETCC. In particular, procure computer systems with enhanced inter-departmental connectivity and Geographical Information System for monitoring the traffic conditions.

Use of Technologies in Crisis Management

39. Update the Intelligent Transport System strategy and implement the recommendations as soon as possible.
40. Harness advanced technologies such as new CCTV system, Automatic Incident Detection technology, Global Positioning System and Traffic Control and Surveillance System to strengthen emergency handling capabilities subject to availability of resources.

Timely Dissemination of Information

41. Explore more innovative and effective means for dissemination of information to the public.
42. Set up a designated radio broadcast channel for traffic news. Alternatively, work with the radio stations to increase the frequency of traffic information broadcasts.
43. Use geographical information system technology to inform the public of the traffic conditions of different roads through a digitised map on the Internet.
44. Discuss with the Integrated Call Centre additional measures to strengthen its role in disseminating emergency transport information.
45. Arrange for live TV broadcast of traffic conditions at TD.
46. Notify the management companies of commercial buildings and shopping arcades of the traffic incidents, so that the information can reach the people in those buildings and arcades before they embark on their journeys.
47. Send traffic information via email to employees of large organisations.
48. Explore with the mobile phone companies to see whether and how cell broadcast technology can be deployed to facilitate dissemination of information.
49. Discuss with mobile phone companies the feasibility of arriving at an agreement of information dissemination, before resorting to any regulatory means.
50. Disseminate traffic information to taxi organisations, public light bus associations and other public transport associations for onward transmission to their members.

51. Install Variable Message Signs (VMS) at strategic locations and junctions. Mobile VMS may also be deployed on the roads when no fixed VMS are available.
52. Consider enabling the buses to receive radio broadcast. Alternatively, utilise the audio-visual equipment on trains of the MTR Corporation and Kowloon Canton Railway Corporation.
53. Use as many means of contact as possible. A follow up phone call after a faxed press release will help to draw the media's attention to the messages sent.

Clarity and Effectiveness of Messages

54. Improve the content of the messages issued to the media, especially radio stations, and provide clear indication of the degree of congestion and alternative routes.
55. Indicate roughly the reopening time of the road where possible. If it is not practicable to give such an estimate, inform the public of the uncertainty of the road closure time.

Delineation of duties between the Transport Department and the Police Public Relations Branch

56. Enhance coordination between TD and the Police to avoid causing confusion to the mass media and the public. The information released by TD and the Police should be passed to each other to ensure consistency, minimise contradiction and reduce unnecessary repetition.