For Discussion
on 22 July 2005

Legislative Council Panel on Transport

The Administration's Response to the Report of the Task Force on Emergency Transport Coordination

Introduction

This paper briefs Members on the actions that Administration has taken to implement the recommendations put forth by the Task Force on Emergency Transport Coordination.

Background

2. Following the serious traffic congestion in Kowloon on 9 May 2005, the Secretary for the Environment, Transport and Works appointed a Task Force to review and recommend measures to enhance emergency transport coordination framework. The Task Force completed the review and submitted its report on 5 July 2005.

3. The Task Force has mapped out 56 recommendations. A summary is at **Annex**. The Task Force considers it necessary 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.

4. The Administration welcomes the Task Force's report. We have also accorded top priority to implementing the recommendations in the report. In fact, we have already put some of the improvement measures in place, and have worked out an implementation plan to take forward the remaining ones in the short to longer term.

Implementation Plan

Contingency plans
(Recommendations 1 and 2)

Immediate Actions

5. Many departments have contingency plans on major emergencies within their purview. Some have been conducting drills for natural disasters like typhoons, serious incidents and large-scale planned events. In accordance with the Task Force's recommendations, the Transport Department (TD) has developed generally applicable contingency plans for major traffic incidents.

Short Term

6. Others departments have also initiated action to expand the range of their contingency plans to include scenarios that may appear to be less significant but yet may have serious traffic impact. TD is working closely with them to ensure that their contingency plans do align with those of TD. TD will conduct workshops to facilitate this exercise. Emergency drills involving the relevant departments will also be conducted to test the efficacy of the contingency plans.

Longer Term

7. The development of detailed contingency plans for specific scenarios will be an ongoing exercise. In addition, TD will examine the feasibility of including such details as signal control plans as well as manpower and logistics requirements to enhance its ability to manage traffic during an incident.

Data Collection
(Recommendations 3 – 9)

Immediate Actions

8. TD and the Police have enhanced communication and coordination during emergency incidents by updating and supplementing each other on the latest intelligence and traffic information.

9. To facilitate planning and implementation of diversion plans in a holistic manner, hard copies of incident maps are now readily available in TD to collate information from different sources to assess the severity and spread of the congestion.

Longer Term

10. In the longer term, TD will explore the feasibility of developing a computerised digital map to facilitate incident management.

11. TD will examine if the existing loop detectors underneath some of the roads can be utilised to collect real-time traffic data. If such is feasible, TD will consider widening the coverage of these detectors along traffic sensitive or public transport sensitive routes in the longer term, subject to availability of resources.

12. TD has already conducted a review on the existing Closed-circuit Television (CCTV) system and has identified the "blind spots", especially those along traffic sensitive or public transport sensitive routes. TD plans to install some 70 – 80 additional cameras to enhance the coverage of the CCTV system at strategic locations. Separately, TD will also examine the feasibility of deploying mobile CCTVs, using technologies that are available in the market.

13. At present, TD has installed a Journey Time Indication System on Hong Kong side to measure the journey time to the three road harbour crossings through tracking the position and speed of a fleet of buses equipped with the Global Positioning System, supplemented by video images captured by cameras at strategic locations. TD plans to extend the Journey Time Indication System to the Kowloon approaches to the tunnels.

14. TD will explore the feasibility of using Geographical Information System to develop Traffic Speed or Queue Maps to facilitate early detection of incidents, as well as formulation of diversion and signal control plans.

Assessment of the Situation
(Recommendations 10 – 13)

Immediate Actions
15. Assessment of the severity of the incident and decisions on the proper courses of action are critical to ensuring the effectiveness of the emergency measures. As such judgements and decisions are usually made by officers at the incident site, we have asked departments to provide checklists and guidelines to assist their frontline staff in the assessment process. In addition, on the basis of TD's advice, they will specifically alert the concerned staff to the macro picture i.e. the traffic impact of their actions or inaction.

16. Departments are aware of the need to provide as far as practicable a realistic assessment of the time required for the remedial works. Where a firm assessment or an estimate of the road closure duration cannot be provided, the officers at the site will report the matter to the senior management for direction. TD and the Police will also be informed of the inability to make a realistic assessment, so that more prolonged traffic diversion plans and the Joint Steering Mode of the Emergency Transport Coordination Centre (ETCC) (see paragraph 32 below) could be triggered.

Incident Management
(Recommendations 14 – 18)

Immediate Actions
17. TD will start keeping records of the types of incidents, duration, clearance time, etc. manually for evaluation and analysis to improve the accuracy of traffic impact assessment.

18. Some departments are already conducting debriefings after emergency incidents. We have reminded all relevant bureaux/departments to carry out internal or joint-department debriefings as necessary.

Longer Term

19. A computer-aided dispatch system may enable the involved departments to have real-time understanding of the events as well as the status of equipment and manpower dispatch. TD will consider the feasibility of developing such a system. Separately, TD will also examine whether and how an automated incident database could be developed.

20. The Task Force suggested that traffic models be developed 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 and contingency plans developed. As this involves development of specific modelling software, TD intends to invite academics or consultants to advise on the technicalities in this regard.

21. The Task Force has also recommended that TD should 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 and diversion plans based on contingency scenarios and lessons learned from past incidents. TD will examine the availability and applicability of such a system, as well as the resource implications.

Measures to Facilitate Diversion

(Recommendations 19 - 23)

Immediate Actions

22. TD has already liaised with the radio stations and will provide more information and guidance to motorists on the alternative routes to facilitate traffic diversion arrangements. For planned events and prolonged incidents on major trunk roads, information on the incident will also be uploaded on TD's website.

Short Term

23. TD is discussing with the bus companies on ways to improve information dissemination to passengers when buses have to be diverted,

and also ensure that the diversions are feasible and will not cause too much inconvenience to passengers. TD has also asked the operators to provide more training and guidelines to bus regulators, so as to strengthen their liaison role with passengers in emergency situations.

Longer Term

24. TD and the Highways Department will examine in detail whether and how to increase the provision of emergency openings at central dividers at intermittent locations of major trunk roads. In doing so, the financial and safety implications would have to be considered.

Recovery Management

(Recommendations 24 and 25)

Immediate Actions

25. We agree that apart from taking prompt actions to clear the site when emergency incidents arise, follow-up actions after the clearance of the site are equally important. Noting the Task Force's emphasis on this area of work, TD will ensure that special traffic management measures are in place even after the clearance of the incident. It will also continue to monitor the traffic conditions in the affected region and adjust traffic signals through the Area Traffic Control system for effective queue management and dissipation.

Internal Communication Within a Department

(Recommendation 26)

Immediate Actions

26. We understand many departments have in place internal guidelines for officers at the scene to escalate the issues to the appropriate level of the senior management. All the relevant departments have been required to establish such a mechanism for senior officers to deploy resources effectively, monitor the developments closely and give directives in a timely manner.

Inter-departmental Coordination
(Recommendations 27 – 32)

Immediate Actions
27. TD is preparing an Emergency Transport Handbook for all departments to follow in handling emergency incidents with traffic impact. The Handbook will incorporate the four-stage incident management concept recommended by the Task Force. Other departments are also reviewing their internal circulars, which will set out their designated roles in such incidents. TD and all relevant departments will ensure that the latter's emergency procedures do align with that of TD.

28. In addition, to ensure that frontline officers are well aware of the emergency transport arrangements, TD will update and re-circulate both to its officers and to other departments the Emergency Transport Handbook, relevant contingency plans and liaison details on a regular basis.

Longer Term
29. TD will consider inviting universities or consultants to carry out longer term studies on the incident management system in Hong Kong, with particular reference to overseas practices.

Designated Communication Channels Between Departments
(Recommendation 33 and 34)

Short Term
30. Departments agree that this is one major area that requires improvement. TD will take the lead and will explore with the Police and others the best way to establish designated channels for communication among departments. Meanwhile, the contact details of the duty officers will be promulgated and updated regularly. Departments have also been reminded not to divert the contact numbers of their duty officers to the Integrated Call Centre (ICC).

Longer Term

31. As mentioned in paragraph 19, a computer-aided dispatch system may enable the involved departments to have real-time understanding of the events as well as the status of equipment and manpower dispatch. TD will consider the feasibility of developing such a system.

Role of ETCC

(Recommendations 35 - 37)

Immediate Actions

32. TD and the Police have agreed that in case of major planned events and serious incidents, they will activate the Joint Steering Mode in ETCC. Senior officers from the headquarters of TD and the Police will station at ETCC for joint development of traffic diversion plans and decisions on emergency traffic arrangements. For instance, the Joint Steering Mode was activated at the recent Lions Club's International Convention Parade that involved traffic diversions and special transport arrangements. Both departments found the arrangement effective.

33. In addition, a directorate officer from the Environment, Transport and Works Bureau will station at ETCC to enhance coordination with other bureaux and the senior echelon. Where necessary, senior officers of other supporting departments will also station at ETCC or be available on line to facilitate communication and decision-making.

Facilities of ETCC

(Recommendation 38)

Longer Term

34. The Task Force has suggested that the facilities of ETCC should be upgraded. In particular, ETCC should have computer systems with enhanced inter-departmental connectivity. TD will consider the equipment requirements, taking into account the studies into various technologies mentioned in the aforesaid paragraphs.

Use of Technologies in Crisis Management
(Recommendations 39 and 40)

Short Term
35. Taking into account the latest technological development, TD will update the Intelligent Transport System strategy.

Longer Term
36. TD will implement the recommendations of the Intelligent Transport System strategy as soon as possible. TD will also explore the feasibility of adopting the technologies recommended by the Task Force. In particular, they will examine the legal, technical and financial issues, their availability and applicability, as well as their interface with the existing systems in the departments.

Timely Dissemination of Information
(Recommendations 41 – 53)

Immediate Actions
37. To bring about immediate improvement in the dissemination of traffic information to the public, particularly motorists, TD has already requested radio stations to increase the frequency of traffic information broadcasts. TD will arrange for media briefings at its headquarters in case of prolonged and serious incidents.

38. TD has put in place additional means of contact. It is now a standard procedure for TD's officers to make follow-up phone calls to the radio stations after faxing press releases to the media. TD will continue to explore more channels to disseminate traffic information to the public.

39. While ICC is already passing on traffic information from TD to the callers, TD is working with the Call Centre on ways to strengthen the latter's role in disseminating emergency transport information.

Short Term

40. TD will seek the views of the relevant property management companies, major organisations and public transport organisations regarding the feasibility of disseminating emergency traffic information through their email/radio/information systems. Subject to their consent, TD will disseminate traffic information through these bodies to their clients/employees/members.

41. Given the importance to provide timely traffic or incident information to commuters already on the road, TD will explore the feasibility of enabling the buses to receive radio broadcast and utilising audio-visual equipment on trains with the bus companies and the two railway companies.

Longer Term

42. While setting up such a designated radio broadcast channel will provide motorists with readily available information for both pre-trip planning and selection of alternative routes, TD will need to examine the feasibility of this recommendation, taking into account the availability of radio frequencies and cost-effectiveness. In the meantime, as mentioned in paragraph 37, TD has already requested radio stations to increase the frequency of traffic information broadcasts.

43. TD will explore with the mobile phone companies how the cell broadcast technology can be deployed to facilitate dissemination of traffic and incident information, and the consequential resources implications. TD will also discuss with them the feasibility of offering free information dissemination service in emergency situations.

44. At present, Variable Message Signs are installed in the Tsing Ma Control Area and the approach roads to Aberdeen Tunnel and the Airport Tunnel. TD plans to install similar message signs at new locations and strategic roads.

45. TD will explore the feasibility of using Geographical Information Systems to enable the public to view the traffic conditions

via a digitised traffic or queue map on the Internet.

46. TD will also continue to explore more innovative and effective means to disseminate traffic information to the public.

Clarity and Effectiveness of Messages
(Recommendations 54 and 55)

Immediate Actions
47. TD is working closely with the radio stations to improve the contents of the messages sent to the media. Specifically, there will be clearer indication of the degree of congestion and alternative routes or public transport services, as well as a realistic estimate of the duration of the road closure. If it is not practicable to give such an estimate, such uncertainty will also be made known to the public.

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

Immediate Actions
48. Under the Joint Steering Mode, ETCC will be the central point in coordinating information dissemination to the media and the public. For other cases, whether TD or the Police would be in a better position to do the information dissemination work will depend on the circumstances of each case. Nonetheless, the two departments have agreed to enhance communication with a view to ensuring consistency, minimising contradictions and reducing unnecessary repetitions of the messages.

Resource Implications

49. At this stage, we are unable to work out any realistic cost estimates for the enhancement measures, as many are still subject to further examination, especially those involving new technologies or equipment. Should there be a need for additional resources, we will seek funding approval from the relevant authorities in the usual manner.

Advice Sought

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

Environment, Transport and Works Bureau
July 2005

Annex

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.