

Why Hong Kong needs a transportation safety board

'Trains and boats and planes'—to borrow the words from Burt Bacharach and Hal David's 1965 song—are an essential part of Hong Kong's prosperity. A safe and efficient transport system is key to the role of the Hong Kong Special Administrative Region (HKSAR) as an international travel and trade hub, and strong public confidence in these aspects is crucial. Compared with other territories, Hong Kong has maintained a good but not flawless record of transport safety. Fortunately, past disasters have resulted in limited loss of life and injuries, but there is no room for complacency as the roads, airways, seaways and railways become busier. Among the challenges on the ground will be the ever-increasing volume of cross-border lorry, car and bus traffic, and the proposed new bridge-road link to Zhuhai and Macau, which will create new issues for the emergency services.

Public perception of transport safety remains positive but fragile. Most citizens will readily recall

the China Airlines air accident of 1999,¹ the bus crashes on Tuen Mun Road in 2003 (Fig) and at Sai Kung in 2008,² and the grounding of the Mui Wo ferry in 2006.³ Recent controversies surrounding the reluctance of officials to release information on railway suicides and also the incident involving the fall of an unoccupied cable car on the Ngong Ping 360 SkyRail system have caused people to wonder just how effectively transport safety is regulated.

Hong Kong has a robust system of safety regulation in terms of inspection and enforcement, but there are weaknesses when things actually go wrong. HKSAR Government departments are justifiably proud of their operational standards and independence from one another, but they face a conflict of interest when called upon to investigate accidents within their own area of responsibility. The preamble to all official air accident and marine accident reports contains a statement reminding readers that the purpose of the investigation is not to apportion blame, but rather to determine circumstances and causes with the aim of preventing similar accidents in the future. This produces a number of dilemmas. For example, the Civil Aviation Department (CAD) not only runs Hong Kong's Air Traffic Control (ATC) system as an operator, but also regulates it, and must also investigate air accidents—including those in which ATC may have played a part. From the author's personal observations, these functions are scrupulously separated from each other and professionally carried out with the utmost integrity, but in the public perception an inherent conflict of interest still exists. While the system has worked well for many years, it is vulnerable to challenge by aggrieved parties.

A similar situation exists with marine accidents. The Marine Accident Investigation and Shipping Security Policy Branch (MAISSPB) is part of the Marine Department, the same regulatory authority that might have to prosecute or take disciplinary action in the event of transgressions. The MAISSPB report into the Xin Jie ferry grounding at Mui Wo in 2006 concluded that the cause of the accident was the dizziness and collapse of the Assistant Master, who was affected by taking the drug nifedipine.³ The investigators missed important chances to help avoid future incidents of this type when framing their recommendations when they simply recommended that the individual ferry operator, New World First Ferry Services Ltd, should require their Masters and Assistant Masters to inform the company if they become ill or have taken

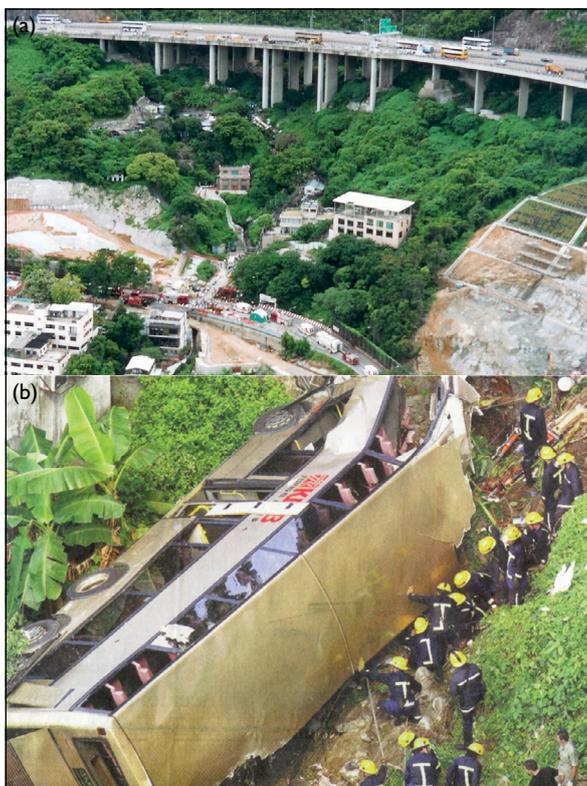


FIG. The Tuen Mun Road bus crash of 10 July 2003 (by courtesy of the Government Flying Service)

(a) The scene at Ting Kau, New Territories. The bus is seen under the third pillar from the left, having fallen 35 m from the highway above. (b) Fire Services personnel engaged in the rescue of casualties (21 dead, 20 injured)

medicines. Two opportunities for future prevention were neglected—firstly, the recommendation could have been directed to all ferry companies and secondly, existing mechanisms for ensuring the medical fitness of seafarers were ignored. The Marine Department has a list of 131 Hong Kong doctors specially approved under relevant regulations and ordinances to examine seafarers,⁴ and it would have been an easy matter to recommend that any key crew member affected by significant illness, injury or commencing new, ongoing medication should seek advice from one of these doctors. Aircraft pilots are already required to consult one of the CAD's Approved Medical Examiners under these circumstances, and the Air Navigation (Hong Kong) Order clearly specifies when unfitness needs to be reported.⁵

Doctors bear a heavy responsibility when assessing the health of pilots, commercial drivers and seafarers. General practitioners must always be mindful of how the different clinical conditions they diagnose, and the medicines they prescribe, affect the safe performance of the patient's occupation. For those charged with assessing fitness to return to work after serious illnesses, the responsibilities are even more onerous. Two of the six defendants indicted by Japanese authorities after the Tokyo Bay air crash of 1982 were doctors who had certified the pilot fit to fly, shortly after he had returned from a year's absence with a mental illness.⁶

The Hong Kong investigative authority with theoretically the greatest independence is the Railways Inspectorate, which is part of the Transport and Housing Bureau rather than the Transport Department. Ironically, and in a situation quite unlike that of the United Kingdom, Hong Kong railways have so few major accidents that this independence has rarely, if ever, been tested.

Perusal of past Hong Kong official transport accident investigation reports gives the impression of excellence in the pursuit of technical causes, but of rather less attention being given to human and

organisational factors. In the case of air accidents,^{7,8} this has begun to change and Hong Kong has emerged as one of the prime movers in the annual regional accident investigators' gatherings held under the auspices of the International Civil Aviation Organization. Aviation has been the arena for many groundbreaking developments in accident analysis and prevention, and could lead the way for improvements in the investigation of all transport accidents in Hong Kong.

How can the various conflicts of interest be resolved and good practice be extended to the investigation of all accidents? In Australia and the United States, independent transportation safety boards are charged with the investigation of all modes of transport accidents. Some jurisdictions, like Hong Kong, have only small numbers of transport accidents, and others have a great many, but in all cases, the pooling of expertise needed for investigations across multiple modes of transport produces economies of scale. Sooner or later, it may be a good idea for Hong Kong to consider adopting such a model and to form a transportation safety board. In order to prepare for this and to foster the necessary expertise required to staff such a board, we need to develop a multidisciplinary interest group. Together with engineers working with each form of transport, doctors working in the diverse areas of Emergency Medicine, Public Health, Aviation Medicine, Occupational Medicine and the surgical specialties, all have an interest in the consequences of transport accidents, and a strong desire to help prevent similar tragedies in the future.

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References

1. Civil Aviation Department. Report on the accident to Boeing MD 11 B-150 at Hong Kong International airport on 22 August 1999. Hong Kong: Aircraft Accident Report 1/2004.
2. Lai PB. Trauma surgery in Hong Kong. *Surg Pract* 2008;12:73.
3. Report of Investigation into the Grounding of the Local Passenger Ferry "Xin Jie" on 12 May 2006. Hong Kong: Marine Department, Marine Accident Investigation Section.
4. Marine Department: Registered Medical Practitioners Approved to Medically Examine Seafarers website: http://www.mardep.gov.hk/en/pub_services/pdf/regmp.pdf. Accessed 10 Mar 2009.
5. Air Navigation (Hong Kong) Order. Hong Kong: HKSAR Government; 1995.
6. Time Magazine 01 March 1982. "Troubled Pilot". Time website: <http://www.time.com/time/magazine/article/0,9171,922801,00.htm>. Accessed 10 Mar 2009.
7. Civil Aviation Department. Report on the accident to Eurocopter EC155B1 helicopter, B-HRX, operated by the Government Flying Service of Hong Kong near Hong Kong International Airport on 26 August 2003. Hong Kong: Aircraft Accident Report 1/2006.
8. Civil Aviation Department. Report on the accident to Robinson R44 helicopter, B-HJS, operated by Topjet Aviation Limited at Pak A, Sai Kung, Hong Kong on 11 June 2005. Hong Kong: Aircraft Accident Report 1/2007.