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Health Tips

Understanding and practicing road safety is everyone's business.

All road users should be familiar with the 'language of the road' and strictly follow the road safety rules in order to take care of themselves and respect others on the road.

Road Traffic Injuries : A Huge Public Health Issue

Road traffic accidents, which may range from minor fender-benders to horrific multiple pile-ups, are an important public health issue throughout the world. Other than crashes of cars which are the foremost type of vehicles involved, road traffic accidents also include crashes related to motorcycles, trucks, buses, trams or trains, as well as collisions between vehicles and pedestrians. However, road traffic accidents are largely predictable and preventable.

Experience from many countries has shown that a scientific 'systems approach' to road safety is essential for tackling the problem¹. As road traffic accidents are seldom caused by a single factor, this approach addresses the traffic system as a whole and looks at the interactions between the 'host' (i.e. the road user, such as the behaviour and experience of the driver or pedestrian), 'agent' (i.e. the vehicle pertaining to its design, speed of operation or installation of safety devices), and 'environment' (i.e. the situation under which the event happens, including weather conditions or road infrastructures) to identify solutions.^{1,2} Overall, road user behaviours are thought to be responsible for (all or at least in part) some 80-90% of road traffic accidents, whereas about 5-10% road crashes are attributed to the vehicle and 10-20% to road infrastructures.²

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Global Perspective

The world's first pedestrian death caused by a car occurred in 1896.¹ More than a century later, road traffic injuries and deaths have become part of our everyday lives. According to World Health Organization's (WHO) Global Burden of Disease Project 2004 update, road traffic accidents caused about 1.3 million deaths that year.³ In addition to fatalities, as many as 50 million people are injured or disabled in road traffic crashes annually around the world.⁴ Although many high-income countries show a stabilized or declined road traffic fatality rate in recent decades (that are attributed largely to the implementation of a wide range of road safety measures, including enforcement of seat-belt legislation, legislation against drink driving, and vehicle crash protection), the number of road traffic injuries has continued to rise in the world as a whole. It is primarily due to increased motor vehicle ownership and use associated with economic growth in low and middle-income countries.⁵

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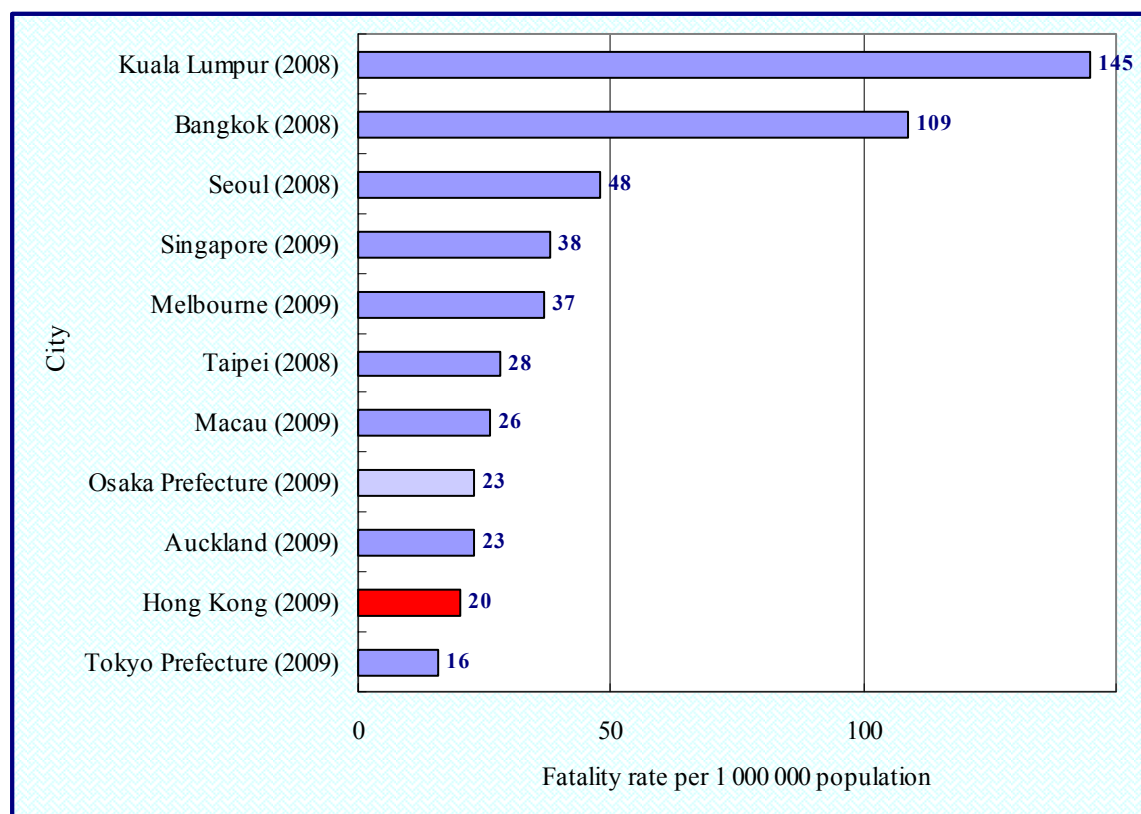
In 2004, road traffic accidents ranked ninth as the leading cause of death globally. Without immediate and appropriate actions, road traffic accidents are forecast to be the fifth leading cause of death (with an estimated 2.4 million fatalities per year) and will rise to become the third leading cause of global burden of disease by 2030.^{3, 5}

Local Situation

When measured against cities of similar economic development in the Asia-Pacific region, Hong Kong currently has a favourable road safety record (Figure 1). This could be attributed to the joint efforts of various Hong Kong government departments, Road Safety Council and other stakeholders in enforcing effective road safety legislation and implementing various road safety initiatives in the past two decades.

From 1993 to 2009, the overall number of reported road traffic accidents with personal injury in Hong Kong in fact dropped 7.5% from 15 469 to 14 316, despite an increase in the number of vehicles and population over the same period - a 35.8% increase in the total number of motor vehicles licensed, 26.2% increase in road length-carriageways (km) and 18.7% increase in population size. Of particular note is that Hong Kong has achieved a significant 62.5% and 43.0% reduction in the number of reported fatal and serious road traffic accidents respectively in the same period (Figures 2a and 2b). However, there is no room for complacency as the toll of death and serious injury attributed to road traffic accidents is still notable. Furthermore, the number of reported slight road traffic accidents (i.e. involving one or more persons injured and detained in hospital for not more than 12 hours if required) has actually increased 4.4% between 1993 and 2009 (Figure 2c).⁶

Figure 1: Road traffic fatality rate in different cities in the Asia-Pacific region, 2008/2009



Source: Transport Department.

Figure 2a: Number of fatal road traffic accidents, 1993-2009

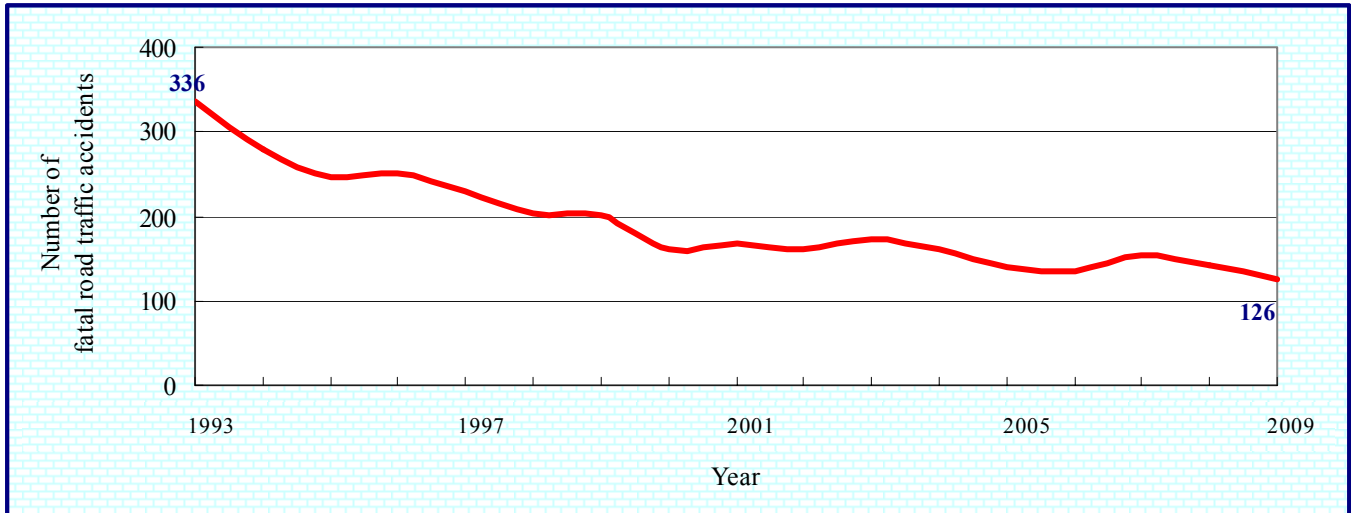


Figure 2b: Number of serious road traffic accidents, 1993-2009

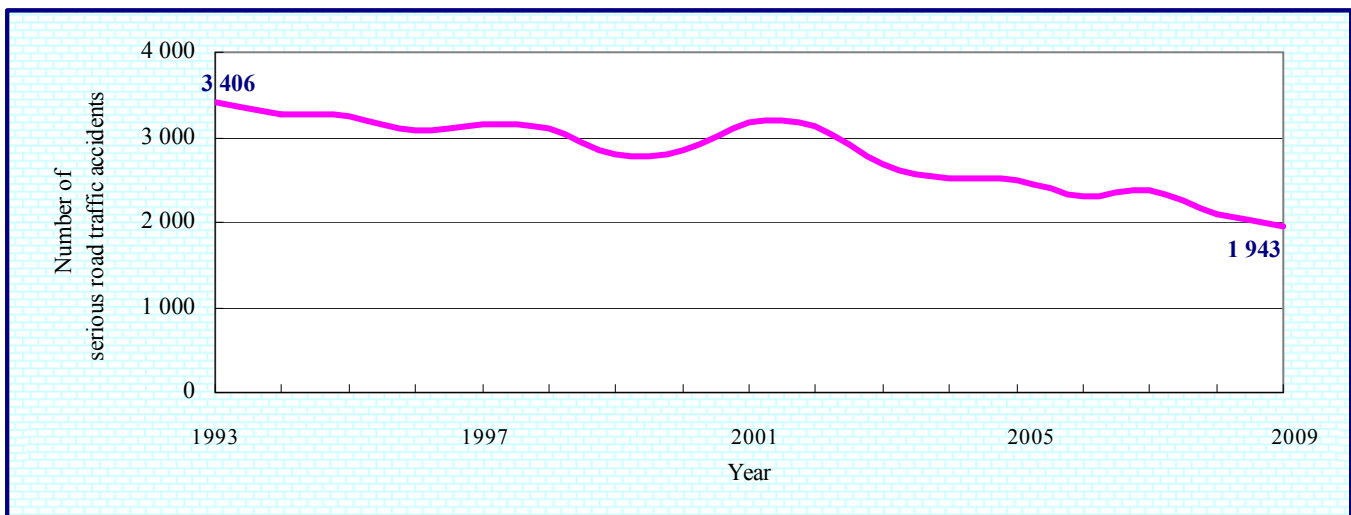
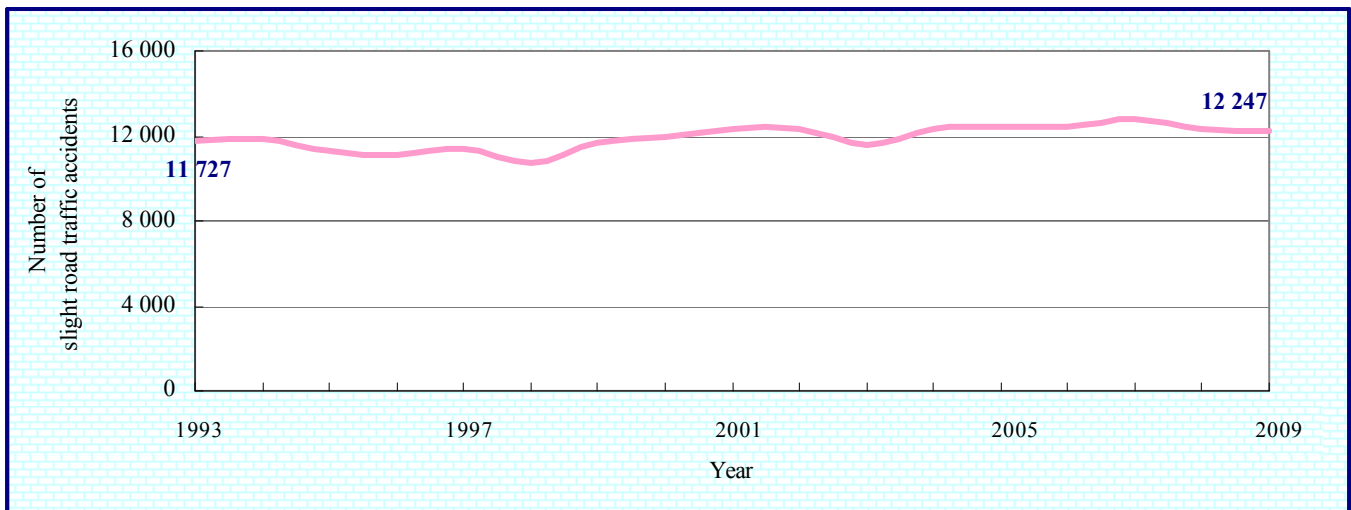


Figure 2c: Number of slight road traffic accidents, 1993-2009



Source: Transport Department.

Further analysis of the 14 316 road traffic accidents with personal injury in 2009 that involved 21 681 vehicles and resulted in 18 138 casualties could help distinguish problems and provide some insight into their contributory factors.

Of the 21 681 vehicles involved, private car, taxi and motor cycle altogether accounted for over half (57.4%) of the total vehicle involvements (Table 1). Except for unidentified vehicle ('hit-and-run'), the leading *vehicle contributory factors* in road traffic accidents included mechanical defect, broken down with hazard warning lights unlit, defective or illegal tyre and defective vision. For the *driver contributory factors* among vehicle involvements in road traffic accidents, major factors included driving inattentively, driving too close to vehicle in front, careless lane changing and loss control of vehicle.⁶

Table 1: Vehicle involvement in road traffic accidents by class of vehicle, 2009

Class of vehicle	Number (%) of vehicles
Private car	6 085 (28.1%)
Taxi	3 801 (17.5%)
Motor cycle	2 556 (11.8%)
Light goods vehicle	2 527 (11.7%)
Public bus	2 322 (10.7%)
Bicycle	1 882 (8.7%)
Public light bus	1 110 (5.1%)
Others (including unknown vehicle type)	1 398 (6.4%)
Total	21 681 (100.0%)

Source: Transport Department.



In 2009, there were 18 138 road traffic casualties in Hong Kong - including 139 deaths, 2 096 people seriously injured (such as requiring hospital detention as an in-patient for more than 12 hours or injuries causing death 30 or more days after the accident) and 15 903 people sustained an injury of a minor character (such as minor shock, or a sprain, bruise and cut not judged to be severe). The number of casualties and the degree of injury were associated with sex, age and class of road users. Males, people aged 20-39 and drivers accounted for 63.8%, 40.5% and 46.2% of all road traffic casualties respectively (Table 2). While non-fatal road traffic injuries largely happened among drivers (accounted for 46.7% and 44.0% of all slight and serious injuries respectively), pedestrians accounted for over half (51.1%) of the total road fatalities.⁶

Table 2: Road traffic casualties by sex, age group and class of road user, 2009

	Number (%) of casualties
Sex	
Male	11 564 (63.8%)
Female	6 545 (36.1%)
Unknown	29 (0.2%)
Age group	
Under 20	1 900 (10.5%)
20-39	7 338 (40.5%)
40-59	6 325 (34.9%)
60 and over	2 353 (13.0%)
Unknown	222 (1.2%)
Class of road user	
Driver	8 384 (46.2%)
Passenger	6 171 (34.0%)
Pedestrian	3 583 (19.8%)

Source: Transport Department.

The most common *casualty contributory factors* in road traffic accidents were crossing road heedless of traffic (at crossing and elsewhere), passenger lost balance (elsewhere except on stairway of bus), pedestrian inattentiveness and lost balance or fall down when boarding or alighting vehicle. As for the *environmental contributory factors* in 14 316 road traffic accidents in 2009, the most commonly reported ones included slippery road, object or animal in road, obstructed road and pedestrian negligence.⁶

Road Safety Rules for Road Users

To make Hong Kong one of the world's safest road networks with zero accident on the road is the Government's vision of road safety. Various government sectors (such as transport, health, education, police or judiciary departments) have been working in close collaboration with relevant non-governmental organizations, professional bodies and communities in the development and implementation of road safety policies.

Understanding and practicing road safety is also everyone's business. Thus, all road users should be familiar with the 'language of the road' (such as the meaning of traffic signs and road markings) and strictly follow the road safety rules (Boxes 1-3) in order to take care of themselves and respect others on the road. In doing so, many road traffic accidents can be avoided.

Parents and carers should supervise children in all traffic situations and play an active role in developing children's road safety skills, such as educating them to always use pedestrian crossings, obey pedestrian lights, observe traffic movement before crossing road, wear a helmet when cycling, and use a seatbelt at all times when traveling in a car if it is fitted on the seat.

The Transport Department (TD) published the Road Users' Code which contains a wide range of rules, advice and information covering most road and traffic conditions for all types of road users. To access the Code or obtain more road safety tips, please visit TD's website at http://www.td.gov.hk/en/road_safety/road_users_code/index.html.

Box 1: Road safety rules for drivers⁷



- ◆ Fasten seatbelt while driving. In case of motorcyclist, wear a safety helmet of approved design.
- ◆ No speeding. Drive at a safe speed as specified or suitable for the conditions, such as weather, the state of roads and the amount of traffic.
- ◆ Keep a safe distance between you and the vehicle in front.
- ◆ Never drive under the influence of alcohol or drugs.
- ◆ Do not talk on a mobile phone or text SMS messages while driving.
- ◆ Drive carefully and be visible to other road users, including pedestrians and cyclists on the road.
- ◆ Obey traffic lights and all road codes.
- ◆ Maintain the vehicle in a good condition.
- ◆ Be trained and licensed for the vehicle that is driven.
- ◆ Know how to react in case of a car accident.

Box 2: Road safety rules for vehicle passengers⁷



- ◆ Buckle-up at all times when traveling in car, taxi or other public transport if there is seatbelt fitted on the seat.
- ◆ Stay at a suitable and safe place while waiting for the vehicle. Do not stand too close to or on the roadway.
- ◆ Always get into or out of the vehicle on the pavement side, or walk onto the pavement or a safe place immediately after alighting.
- ◆ Do not aboard or alight while the vehicle is in motion.
- ◆ Do not move about while the vehicle is in motion.
- ◆ Hold onto a handrail or pole when standing on a bus, tram or train.
- ◆ Do not stand on the stairways or upper deck of bus.
- ◆ Do not bring along bulky belongings on board to avoid danger while getting on or off the vehicle and causing inconvenience to other passengers.
- ◆ Do not put head, hands or any part of the body out of the vehicle.
- ◆ Do not talk to or distract driver while he/she is driving.

Box 3: Road safety rules for pedestrians⁷



- ◆ Scan the traffic before crossing. Cross the road only when it is safe to do so.
- ◆ Do look for a safe place to cross. Use pedestrian crossing facilities where available to cross a road, such as footbridges, subways, zebra-crossings and pedestrian lights.
- ◆ Only cross when pedestrian lights show a steady 'Green Man' light.
- ◆ Make sure drivers see you before you cross.
- ◆ Cross only when traffic has come to a complete stop.
- ◆ Try not to cross the road where there are parked vehicles, or at a junction unless there is a proper crossing place.
- ◆ Walk briskly straight across the road when it is clear. Do not remain on a crossing road longer than is necessary.
- ◆ Keep looking and listening for traffic while you cross.
- ◆ Do not cross where there are guard rails along the footpath. Never climb over the kerbside fence or central reserve onto the highway.
- ◆ Do not listen to radio or music while crossing.

References

1. Road Safety: a Public Health Issue. Geneva: World Health Organization; 2004.
2. Practical Guide on Road Safety. A Toolkit for National Red Cross and Red Crescent Societies. Geneva: International Federation of Red Cross and Red Crescent Societies and Global Road Safety Partnership; 2007.
3. The Global Burden of Disease, 2004 Update. Geneva: World Health Organization; 2008.
4. Peden M, Scurfield R, Sleet D, et al. World Report on Road Traffic Injury Prevention. Geneva: World Health Organization; 2004.
5. Global Status Report on Road Safety. Time for Action. Geneva: World Health Organization; 2009.
6. Road Traffic Accident Statistics. Hong Kong SAR: Road Safety and Standards Division, Transport Department.
7. Road Users' Code. Hong Kong SAR: Transport Department; 2000.



News Bites

Drugged driving can hurt the driver himself/herself and others. A local study found that one in ten drivers involved in non-fatal motor vehicle casualties had abused psychoactive drugs.

The study involved drug screening of injured drivers who presented to a regional accident and emergency department after a crash between 1 January 2007 and 31 December 2007. Of 395 drivers who had urine drug screening, 38 (10%) tested positive for the drugs of interest. Ketamine was the most frequently detected abusive substance (17 cases, 45%), followed by morphine (12 cases, 32%) and benzodiazepines (9 cases, 24%). Young drivers aged less than 25 years (21%) were 1.3 times more likely than their older counterparts (8%) to have had screened positive. In addition, there were 12 drivers (32%) tested positive for more than one drug of interest.

The finding implied that driving under the influence of drugs could be a potential threat to road safety in Hong Kong.

[Source: Wong OF, Tsui KL, Lam TSK, et al. Prevalence of drugged drivers among non-fatal driver casualties presenting to a trauma centre in Hong Kong. Hong Kong Med J 2010; 16(4): 246-51.]



Event Calendar

WORLD DAY OF REMEMBRANCE FOR ROAD TRAFFIC VICTIMS

On 26 October 2005, the United Nations General Assembly adopted a resolution on improving global road safety and called for the third Sunday in November every year to be recognized as the World Day of Remembrance for Road Traffic Victims.

Such initiative is not only to remember the many millions of people killed in road traffic crashes worldwide, it also aims to increase public awareness of the burden of road traffic collisions on communities, and remind governments and society of their responsibility to make roads safer.

This year's World Day of Remembrance will be on 21st November 2010.

To know more about the World Day of Remembrance for Road Traffic Victims, what activities will take place on that day around the world and past events, please visit its designated website at <http://www.worlddayofremembrance.org>.

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Non-Communicable Diseases (NCD) WATCH is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community.

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