# **Road Accidents – Human's Fault?**

By: Engr. Yap Keam Min, FIEM, P Eng

Road safety is a significant global issue and is an important cause for concern. Road accidents claim about 1.2 million lives yearly worldwide, notwithstanding non-fatal accidents. These figures are expected to rise by as much as 65% in the next 20 years unless there are new commitments to prevention. It is not surprising that about 70% of the fatalities come from developing countries.

Economists and experts are attempting to estimate the economical losses resulting from road accidents, but how can one put a monetary value on life? Deaths cause unimaginable distress, pain, sorrow and anguish. China has the unenviable position of ranking number one for the number of road deaths, *i.e.* about 110,000 deaths and 550,000 injuries annually since 2002.

As with most developing countries, Malaysia also ranks highly in terms of the number of accident deaths. As our population increases, there will be need for more development, more industries, more vehicles and more roads which, sadly, leads to more accidents. Road accidents are proportionate to the population, the volume of vehicles and the quality of the road system. Accidents do happen and the main target is to reduce the number and minimise fatalities.

#### VITAL STATISTICS

Tables 1 and 2 give a good general review of the road accident situation in Malaysia over the last two decades. The number of vehicles registered from 1975 to 2005 has increased from 1,297,119 to 15,026,660.

The total number of road deaths in 1975 was 2,317, which equates to 18.2 deaths per 10,000 registered vehicles, compared with 6200 deaths in 2005 or 4.1 deaths per 10,000 registered vehicles. (As a yard stick, the number of deaths per 10,000 registered vehicles in developed countries is less than 2). In terms of percentage, our figures are encouraging, but we still have 6200 deaths too many.

Most of the road fatalities (more than 70%) come from so-called vulnerable road user types which consist of motorcyclists, pedestrians and bicyclists. Motorcyclists account for about 60% of the total number of annual deaths. Motorcyclists can travel at high speeds and their lack of protection, compared with other road users, makes even a small collision fatal.



Figure 1: Which is the right line?



Figure 2: Speed reducers



Figure 3: Overtaking/passing lane



Figure 4: Passing lane 1km ahead

Some road experts are advocating a 'life saver' glance, a last second glance over the shoulder before motorcyclists move from a stationary position.

The government has been active in launching many road safety campaigns

such as 'Ops Sikap' during festive seasons, road safety programmes by the Ministry of Works and the Malaysian Institute of Road Safety (MIROS). Malaysia is fortunate because our road system is ever improving, especially in the construction of more highways, as less than 5% of the number of accidents occur on highways. Most of the road accidents occur on federal and state roads; hence, more effort should be concentrated in these areas.

### CAUSES OF ROAD ACCIDENTS

It is generally agreed that human factor is the main cause of accidents. Although the person behind the wheel is always deemed to be responsible, we are also responsible for the inadequate design of roads, poor construction and maintenance of roads, inadequate design of vehicles and failure to properly inspect our vehicles for road worthiness. We even choose to drive in very bad weather, such as through a thunderstorm, just because we have to rush home!

Some of the causes of accidents are reckless driving, speeding, fatigue driving, overloading, driving while using the handphone and driving while intoxicated. There is no place for drivers of commercial vehicles who use drugs while driving. Just imagine the risks involved if a drug user were to fly a commercial airplane! Driving while feeling sleepy (driving with less than five hours of sleep) and driving between 2.00 a.m. and 5.00 a.m. also greatly increases the risk of accidents.

Driving while using the handphone is dangerous and should be avoided even with the use of a hands-free kit. To make matters worse, motorists are even texting messages while driving. Driving while using the handphone causes distraction and reduces the driver's ability to control and react to changing conditions. Studies have shown that the likelihood of accidents increase by about four fold when using the mobile phone while driving. One suggestion is to turn off your phone before you start to drive.

One of the most notorious killer roads is the south bound lane of the Jelapang toll plaza, the site of some horrendous accidents with a high number of casualties. According to statistics, it has

recorded a total of 142 accidents in the past 10 years (ref: the Star newspaper). The toll plaza was finally shifted in mid 2008, which is a little too late for many families. The road is still a dangerous one as it is winding and goes downhill, a nightmare for heavy vehicles.

Accidents can be caused by poorly designed and constructed roads and poorly maintained roads. A simple pothole is a concern for motorcyclists. Confusing road signs and line markings can also be problematic (Figure 1). The poor maintenance of vehicles is also a contributing factor to the road accidents statistic. In most developed countries, even private cars have to pass a test for roadworthiness.

## **SOME IDEAS FROM OVERSEAS**

### 1. Speed reducer

Figure 2 shows a typical road reducer used in Australia to slow traffic at a T-junction. This is ideal for use in housing estates and near schools.

### 2. Passing Lane

Passing or overtaking lanes are very common in most winding roads and two lane-roads in New Zealand (Figure 3). They are effective in reducing accidents due to overtaking. There are ample signs (Figure 4) to inform motorists that a passing lane is approaching (for as far as 5km away) and motorists can wait patiently to overtake slow moving vehicles with confidence.

## **CONCLUSION**

Road safety should be a concern to everybody. It is generally agreed that human factor is the main cause of most road accidents. Public safety should be paramount in the design and construction of roads. Road safety education should begin in primary schools and perhaps be a part of the school syllabus. A call centre for the public to report any damaged roads, potholes, traffic light malfunction should be set up.

Although our accident rate has decreased to 4.1 deaths per 10,000 registered vehicles, we still have a lot of work to do to improve our road safety; and to match those of other developed countries when we become a developed country in 2020. ■

Table 1: General road accident statistics in Malaysia

Year	Population	Vehicles Registered	Accidents	Casualties	Deaths	Death per 10,000 vehicles
1975	10,438,137	1,267,119	48,233	19,440	2,317	18.2
1976	10,472,544	1,429,845	48,291	19,327	2,405	16.8
1977	10,716,642	1,621,271	54,222	20,305	2,512	15.5
1978	10,944,500	1,829,958	56,021	21,659	2,561	14.0
1979	11,188,630	1,989,391	57,931	22,611	2,607	13.1
1980	11,442,086	2,357,386	59,084	22,404	2,568	10.9
1981	14,128,354	2,901,182	63,192	22,303	2,769	9.5
1982	14,506,589	3,246,790	74,096	22,820	3,266	10.0
1983	14,886,759	3,594,943	79,150	26,557	3,550	9.9
1984	15,437,683	3,941,036	80,526	25,552	3,637	9.2
1985	15,866,592	4,243,142	82,059	24,824	3,603	8.5
1986	16,278,001	3,523,674	79,804	23,257	3,522	10.0
1987	16,527,973	3,674,482	76,882	21,467	3,320	9.0
1988	16,521,300	3,865,711	73,250	22,538	3,335	8.6
1989	17,376,800	4,155,197	75,626	30,037	3,773	9.0
1990	17,812,000	4,547,417	87,999	29,805	4,048	8.9
1991	18,178,100	4,942,040	96,513	30,107	4,331	8.7
1992	18,606,000	5,259,836	118,554	36,262	4,557	8.6
1993	19,050,000	5,656,037	135,995	41,686	4,666	8.2
1994	19,494,000	6,166,432	148,801	48,503	5,159	8.4
1995	20,096,700	6,802,375	162,491	52,152	5,712	8.3
1996	21,169,000	7,686,684	189,109	53,475	6,304	8.2
1997	21,665,600	8,550,469	215,632	56,574	6,302	7.4
1998	22,179,500	9,141,357	211,037	55,704	5,740	6.2
1999	22,711,900	9,929,951	223,166	52,937	5,794	5.8
2000	23,263,600	10,598,804	250,429	50,200	6,035	5.6
2001	23,795,300	11,302,545	265,175	50,473	5,849	5.1
2002	24,526,500	12,068,144	279,711	49,552	5,891	4.8
2003	25,048,300	12,819,248	298,653	52,741	6,286	4.9
2004	25,580,000	13,828,889	326,815	54,091	6,228	4.5
2005	26,130,000	15,026,660	328,264	47,012	6,200	4.1

(Reference: Royal Malaysian Police [1])

Table 2: Road accident deaths statistics

Type	2002	2003	2004	2005	2006
Pedestrian	650	683	675	601	595
Motorcycle	3429	3548	3500	3591	3693
Bicycle	261	256	283	227	242
Car	1023	1187	1208	1244	1215
Van	156	138	101	111	103
Bus	45	67	69	48	39
Lorry	197	226	233	197	229
4 Wheel Drive	74	91	84	107	110
Others	56	90	75	74	61
Total	5891	6286	6228	6200	6287

(Reference: Statistical report on road accident, Royal Malaysian Police [2])

## **REFERENCES**

- [1] Royal Malaysia Police (PDRM). Statistical Report Road Accidents Malaysia 2001. Traffic Branch, Bukit Aman, Kuala Lumpur. (2002).
- [2] Statistical Report Road Accident, Road Traffic Branch, Royal Malaysian Police, 2007.