



Road fatalities in Malaysia: Are our roads becoming safer or more dangerous?

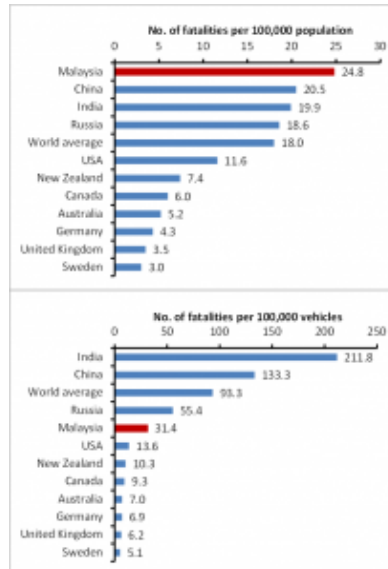
The Member of Parliament (MP) of Kluang [recently wrote about the rising number of road fatalities in Malaysia](#). His article cited the [2013 World Health Organization \(WHO\)](#) report that purportedly showed that Malaysia “has the highest deaths on the road compared to any other nation in the world”. Malaysia’s road fatalities currently stand at 25 deaths per 100,000 population, a value which is higher than India (19.9), Russia (18.6), and China (20.5). But Malaysia’s figure actually puts the country not in the first position, as the Kluang MP asserted, but at 22nd out of 185 countries for having the most dangerous roads in the world.



Are road fatalities such as this becoming increasingly common in Malaysia (photo from cbt.com.my)?

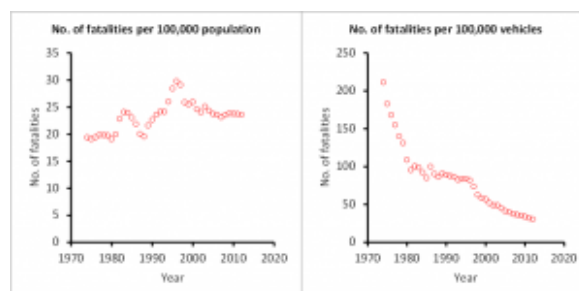
Now comes the more interesting part: if we use the same data from the 2013

WHO report to calculate the number of road fatalities per 100,000 vehicles, we get a contrasting picture on Malaysia's road safety level: Malaysia has 31.4 road fatalities per 100,000 vehicles. At this value, Malaysia now ranks 129 out of 185 countries for having the world's most dangerous roads!



Malaysia's road deaths per 100,000 population is among the highest in the world, but it is also among the lowest in the world if the road deaths are expressed on per 100,000 vehicles basis. What's going on?

In other words, using one type of road safety measure, Malaysia ranks near the top for having the world's most dangerous roads, but by using another measure, Malaysia now tumbles down the ranks. So, what's going on here?



Malaysia's number of road deaths are actually declining sharply annually but still remains high if compared to highly developed nations.

Unbeknownst to the Kluang MP (and probably to most Malaysians) is that the road safety level of a country can be expressed or measured in several ways, two of which are to calculate either the number of road deaths per 100,000 population or the number of road deaths per 100,000 (or sometimes 10,000) vehicles. But none of these two indexes are satisfactorily adequate or comprehensive because they do not fully capture all factors involved in road safety such as risk of exposure.

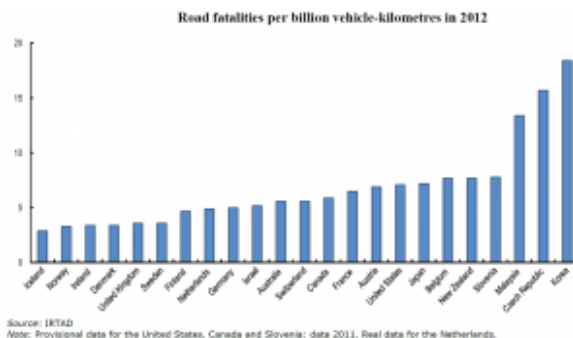
Take Australia and Tonga, for instance. Australia has 5 road deaths per 100,000 population, which is nearly the same as Tonga's 6. However, when expressed as the number of road deaths per 100,000 vehicles, Tonga has 103 whereas Australia 7. Such contradictions occur because road safety indexes, as mentioned earlier, do not fully encompass all factors of road safety, one of which is exposure to accidents.

Consequently, the use of single indexes to compare the road safety between countries can be misleading. Comparisons between countries is only valid if the countries being compared have similar levels of motorization (number of vehicles per population), transport system, population densities, and socio-economic factors.

There are many factors to road safety, but they can be grouped into three dimensions: exposure, risk, and consequences. Simply put, a country's road safety level is related to how exposed people are to accidents during their travels on the roads and how likely of them surviving these accidents should they occur.

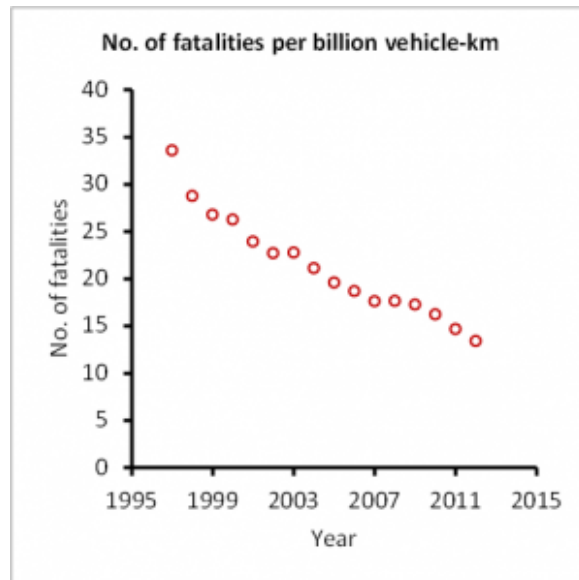
The farther we travel, for instance, the higher the probability we would encounter an accident. Consequently, many researchers suggest that a more useful measure of road safety is to calculate the number of road deaths per vehicle-kilometer traveled in a year. This index is calculated by dividing the number of road deaths by the total distance traveled by all motor vehicles in the country in a year.

Unfortunately, many countries do not collect such data. However, those that do include Malaysia and 22 other countries (such as US, UK, Denmark, Australia, and Germany), and their data are kept in the [International Road Traffic and Accident Database \(IRTAD\)](#) under the [OECD Road Transport Research Programme](#).



Of the 23 member countries in the IRTAD, Malaysia's road safety is the third from bottom, only higher than Korea's and the Czech Republic's. Unfortunately, data are not available for many other countries, making wider comparisons with Malaysia difficult (IRTAD, 2014).

Malaysia's road safety level, as expressed by the number of road deaths per billion vehicle-kilometer, shows a declining trend from 33.6 in 1997, 26.3 in 2000, and 13.4 in 2012. However, Malaysia's road deaths still remain high in comparison to other countries. Most of the 23 countries in the IRTAD have less than 10 road deaths per billion vehicle-kilometer in 2012. Only three countries: South Korea (18.4), Czech Republic (15.7), and Malaysia (13.4) have more than 10 road deaths.



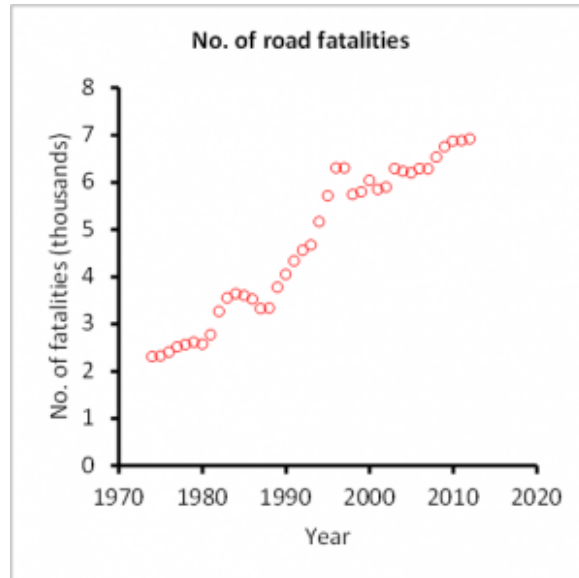
A more accurate measure of road safety is to express the number of road fatalities on per total distance traveled by all vehicles in the country per year. In this case, Malaysia's road safety improves steadily every year since 1997.

More complicated and comprehensive measures of road safety exist. Several researchers have attempted to encompass the three dimensions of road safety (exposure, risk, and consequences) into a single representative measure.

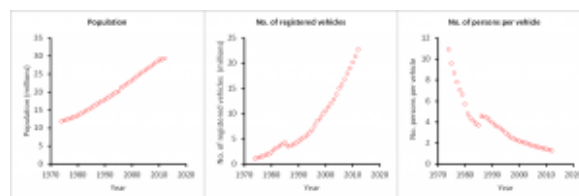
In 2005, Al Haji from the Linköping University, Sweden measured the road safety levels of ten ASEAN countries from 1994 to 2003 and found that the road safety levels among these countries differed widely from one another. Malaysia in particular was ranked third for having the safest roads among the ASEAN countries, but ranked far ahead of us at the first and second positions were Singapore and Brunei, respectively. Al Haji also found that Singapore and Brunei also had similar road safety level with Sweden's, a highly developed nation. In contrast, Myanmar, Vietnam, Cambodia, and Laos were determined to have the least safe roads among the ASEAN countries.

No doubt the number of road deaths or fatalities in Malaysia is rising every year. In 2012, there were 6,917 road fatalities, compared to 6,035 in 2000. But this increase is partly due to the country's rise in population and the number of vehicles on our roads. Since 2000, Malaysia's population increases by an average

of 2% per year to 29.3 million people and the number of vehicles by 6.6% per year to 22.7 million registered vehicles. Rapid motorization in this country meant that in 2012, there were 1.3 persons to a vehicle, compared to 2.2 in 2000, 3.9 in 1990, 5.7 in 1980, and 10.8 in 1974.



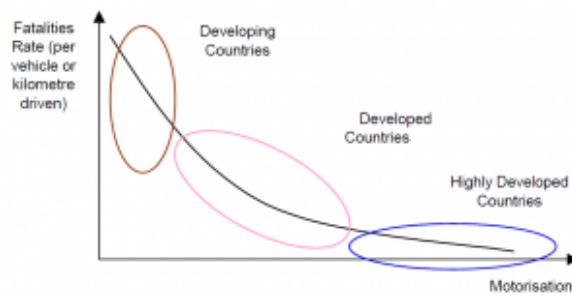
Malaysia’s total number of road deaths increases every year. In 2012, the number of fatalities was 6,917.



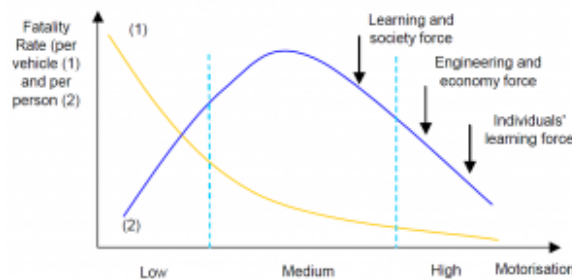
Malaysia’s population, number of registered vehicles, and motorization.

Malaysia’s road safety trends actually follow those typically observed when a country experiences greater economic development and social wealth, leading to increasing urbanization and ownership of vehicles. Malaysia’s road safety levels have actually been improving over the years — but not quickly enough. Malaysia’s road safety level is still far below those of many highly developed countries which have less than 10 deaths per 100,000 vehicles. If Malaysia is to achieve this target of 10 or lower deaths per 100,000 vehicles, we Malaysians have to be ready to make some personal sacrifices. So, it isn’t just what the government should do but

also *what we should do* if we want to see our roads safer.



As a country develops economically, it is usual to see a decline in the number of road fatalities on per vehicle or per vehicle-kilometer basis (Al Haji, 2005).



Greater social awareness, improvements in engineering and road safety technologies, and national policies can drive improvements in road safety. Likewise, Malaysia's road fatalities (per 100,000 population) showed annual increases until 1996, after which Malaysia's road fatalities have declined annually (Al Haji, 2005).

One way to reduce the number of vehicles on the roads is to expand the public transport coverage in the country and encourage more use of public transport in the people's daily commute. But are Malaysians willing to give up their cars and motorbikes - or at least, greatly reduce their use? This is easier said than done.

Local researchers Na'asah and associates in 2013 carried out a survey on 384 car

owners from several Shah Alam neighborhoods. They reported that more than half of these Shah Alam residents see owning cars as something that provides convenience, reliability, freedom, and security. More than half of these respondents also see owning cars as a status and masculinity symbol. Admittedly, the results of this research are limited only to those staying in the Shah Alam area, but I believe the sentiments expressed by these Shah Alam residents would not differ much if this research was to be expanded to include more areas in Malaysia.

Consequently, the much-touted solution of increased use of public transport is not the panacea to increasing Malaysia's road safety levels. Moreover, as Malaysia aims (and is on target) to be a high income country by 2020, we can only expect greater ownership of cars due to increased wealth and awareness of social status among Malaysians.



Increase coverage and use of public transport can reduce the number of road fatalities. Just don't expect Malaysians to willingly embrace public transport — Malaysians have a love affair with their cars (photo from weiliklee.blogspot.com).

In 2012, 60% of road fatalities in Malaysia involve motorbikes. The popularity of motorbike ownership in Malaysia are due to the low cost of owning a motorbike here and that motorbikes here can be used all year round, unlike other countries that have cold seasons that would make the use of fully exposed motorbikes uncomfortable. So, trying to reduce motorbike ownership and use in Malaysia

would be a challenging and polarized issue.

One effective solution to increase road safety is much greater road traffic enforcement such as increasing the use of [Automated Enforcement System \(AES\)](#). Unfortunately, the introduction of AES in Malaysia has been greatly delayed and remains controversial. Some Malaysians see these AES as money-making machines for the government which would ultimately increase the burden of the people. This is a baseless and cynical viewpoint especially when research by [MIROS](#) showed that since the introduction of AES in 14 areas in the country, people's compliance with speed limits and red light stops have increased to 90% and 98%, respectively.



Automated Enforcement System (AES) seen here is a speed camera placed at several locations along highways to discourage speeding (photo from aesdetector.blogspot.com).

Malaysians want safer roads, yes, but I suspect not many are willing to give up their personal comforts to achieve safer roads. Safer roads in Malaysia mean lower private vehicle ownership and use, greater use of public transport, more extensive and stricter subjection to road traffic enforcement, and higher costs of owning private vehicles (more expensive road toll rates, more establishment of road tolls, higher fuel prices, and higher car prices). These solutions may be unpopular, but they are necessary if we wish to see safer roads. Malaysians cannot simply expect cheaper cars, lower fuel prices, no road tolls, no more new highways to be built, and no AES, but yet still expect our roads to be safer than before.



Malaysians say they want more road safety but yet are unwilling to subject themselves to stricter and wider road safety enforcement. Seen here is AES cameras vandalized with red paint (photo from aesdetector.blogspot.com).

Safer roads in Malaysia? Of course we want them. But are we willing to pay the price?

Sources

- Al Haji, G. 2005. Towards a Road Safety Development Index (RSDI). Development of an International Index to Measure Road Safety Performance. Linköping University, Norrköping, Sweden.
- Hawa, M.J., Akmalia, S., Sharifah, A.S.S.M.R. 2014. The Effectiveness of Automated Enforcement System in Reducing Red Light Running Violations in Malaysia. Pilot Locations. Malaysian Institute of Road Safety Research (MIROS), Kajang, Selangor.
- IRTAD. 2014. Road Safety Annual Report 2014. OECD/ITF. Paris, France.
- Na'asah, N., Abd Rahim, M.N., Harifar, M.N. Yusfida, A.A. 2013. Urban residents' awareness and readiness for sustainable transportation case study: Shah Alam, Malaysia. Asia Pacific International Conference on Environment-Behaviour Studies University of Westminster, London, UK, 4-6 September 2013 "From Research to Practice".