

Pedestrian Safety in Malaysia



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Except for the disabled, everyone walks. Even when we travel by car or motorcycle, we have to walk from the parking space to our office, home or other destination. If we take public transport (train or bus), we still need to walk to the train station or bus stop.

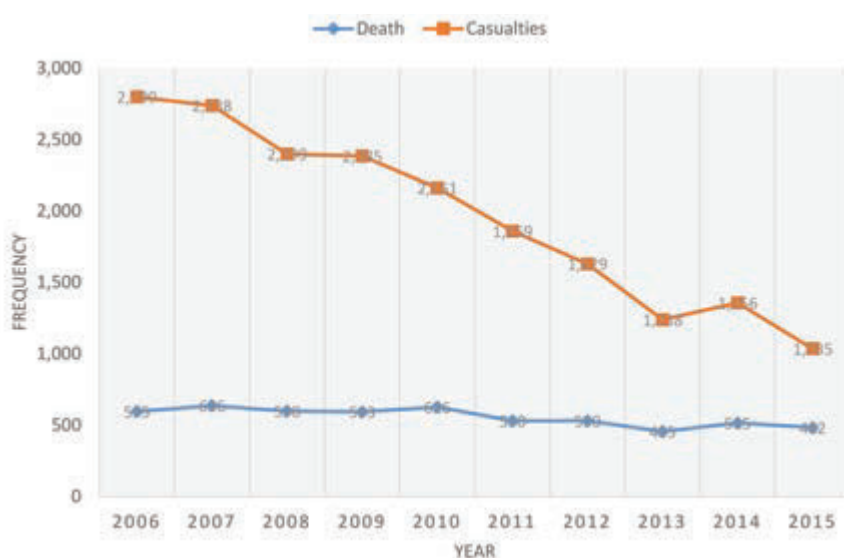


Figure 1: Pedestrian Casualties in Malaysia [1]

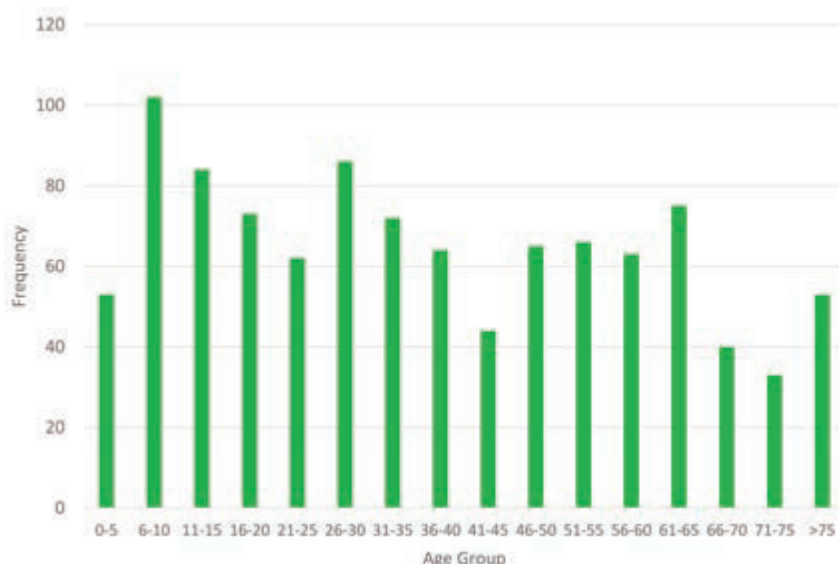


Figure 2: Pedestrian casualties by age group [1]

Walking is a good way to stay healthy as it can help reduce obesity, stress, blood pressure and heart diseases as well as strengthen bones and muscles.

However, in case of an accident, pedestrians are more at risk of injury and death than other road users. Thus, they are classified as vulnerable road users. In the event of a collision with a vehicle, the vehicle will directly impact the pedestrian’s body as he/she is not protected by metal (such as the body of a car). Motorcyclist and cyclist are also considered vulnerable road users.

In Malaysia, pedestrians form the third highest fatality group after motorcyclists and car driver/occupants. Figure 1 (for 10-year period, 2006-2015), shows that the total number of pedestrian injuries has declined by 63%. Nevertheless, the number of pedestrian fatalities has not dropped significantly.

Figure 2 shows pedestrian casualties by age distribution. Children aged 6-10 form the highest group of casualties (fatality and injury), followed by young adults aged 26-30 and teenagers aged 11-15. Referring to (1), most pedestrian casualties are due to careless crossing on roads.

Young pedestrians are exposed to risks daily on their way to and from school. They tend to underestimate vehicle speed and the safety time gap required to cross the road safely. This is why we often see young children dashing across the road despite oncoming traffic (2). Without a traffic warden to guide and assist them in crossing the road, they take chances by crossing at will (see Picture 1).



Picture 1: School children dashing across the road.

PEDESTRIAN RISK FACTORS

Promoting pedestrian safety requires an understanding of pedestrian crash risk factors which are not limited to the behaviour of pedestrians but are also influenced by road condition and other road users, including:

1. **Vehicle Speed:** Vehicles moving at high speeds will increase the risk of pedestrian fatality or severe injury in an accident. The risk increases by 50% when a pedestrian is hit by a vehicle moving at 58km per hour and, at impact speeds of 80km per hour, death is imminent (3).
2. **Road Environment:** On any road, you will find various types of road users sharing travelling space and moving in different directions and at different speeds, mass and capacities. The characteristic differences of these road users will create conflicting movements. Pedestrians (slow pace) require space that is segregated from motorised vehicles (fast pace). Providing proper facilities for pedestrians is necessary to avoid collision with vehicles.
3. **Heavy Vehicles:** When pedestrians are hit by a heavy vehicle (lorry, bus etc.), it is usually fatal. The risks are doubled when compared to

being hit by a light vehicle and 5 times greater than being hit by a motorcycle (4).

4. **Running The Red Light:** At signalised intersections or midblock crossings, the crash risk between vehicles and pedestrians is high when drivers violate red traffic lights (5). This is mostly due to the aggressiveness of drivers when they run the red lights at high speeds. (6).
5. **Driver Disrespect:** Vehicle drivers may also be reluctant to give way to pedestrians. Sometimes, vehicles stop on the crosswalk, narrowing the walking path for pedestrians (see (7) for example). Because of this, pedestrians have to 'bold' to be able to cross the road (8). In (9), a study proved that the drivers' yield-to-pedestrian rates have a strong correlation to their speed. Community-based programmes can be an effective way to educate drivers on giving way to pedestrians (10).
6. **Jaywalkers:** These are pedestrians who cross outside of a crosswalk. Jaywalking creates an unexpected situation in which drivers have to brake suddenly (11). If they are unable to respond in time, an accident happens.

7. **Pedestrian Violation:** It is a huge risk for pedestrians to ignore traffic signals yet this is commonplace in many countries. Findings by previous researchers indicate that this may be due to several factors such as long waiting time, gender, age, time gap, to save time, the number of pedestrians waiting to cross and the presence of bus stops (12)–(14).

INCREASING PEDESTRIAN SAFETY

1. Improved Pedestrian Facilities

Facilities such as pedestrian crossings and footpaths provide dedicated areas for pedestrians to cross roads or walk. These facilities promote safety for pedestrians through space and time segregation from other road users. Providing proper pedestrian facilities as recommended (15) can help reduce the risk of accidents and increase walkability:

- Footpaths should be a part of every new roadway and must be provided on streets that do not have footpaths
- Footpaths should be provided on both sides of the road
- should allow a continuous accessible path of travel
- Be separated from vehicles by curb or buffer zone
- Have adequate width, with hard surfaces.

Pedestrian facilities must be well maintained and be free from obstructions such as street lights, trees, traffic signs and other decorative objects. It is recommended to adopt universal designs which can be used by everyone (including differently-abled pedestrians) with ease. Those in wheelchairs will require curb ramps to access crosswalks and textured paving surfaces are important to act as a guide for the visually impaired.

As for signalised crossing facilities, the type of signal setting (manual push button or automatic) should depend on the location. At intersections with high pedestrian volume, automatic pedestrian signals can be used. For a midblock crossing with low pedestrian volume, a manual push button is

recommended as prolonged waiting without pedestrians crossing the road will result in drivers disrespecting the signal. On the other hand, missing push buttons will result in a long waiting time for pedestrians who then choose to cross at will instead of waiting.

SCHOOL CHILDREN SAFETY AND EDUCATION

Basic pedestrian facilities at school areas should consist of footpaths, signs, road markings, traffic wardens and pedestrian crossings such as zebra crossing, signalised crossing and pedestrian bridge. If a pedestrian bridge is not provided, the visibility of the zebra crossing should be enhanced with a speed limit sign, school children crossing sign and the transverse bar to reduce the speed of approaching vehicles.

In addition, traffic calming treatments such as speed hump, speed table, transverse bar and textured pavement can be used to slow down vehicles. If there is adequate space, drop-off and pick-up zones can also be set up in school areas. Traffic wardens must be deployed to guide children exiting from vehicles to the footpath and to keep traffic moving smoothly and safely. A parking area is also necessary for parents and school transport vehicles waiting to pick up the children.

To further enhance safety, child safety zones should be introduced. All vehicles passing through should respect the set speed limit, especially during 20 minutes of peak time (before school starts and after dismissal). A driver code of conduct is also required to make sure drivers stop for school children entering or crossing the road in this zone.

Meanwhile, teachers can teach students about road safety through various activities. Teach them to wait, look and listen for traffic before they cross the road. Students should also be encouraged to relate to road safety in essays, speeches, slogans and poster drawing contests or photo exhibitions to reflect road safety in their daily routines.

CONCLUSION

Pedestrian safety depends on many factors, including drivers, road environment, vehicles and the pedestrians themselves. Making the road safer for pedestrians requires commitment from all parties concerned. It is the responsibility of all.

There should be a balance between providing good road infrastructure and the practice of using roads correctly. At home, parents should practice safe crossing styles and teach their children the safest way to cross a road. Remind them to follow traffic rules, even when nobody is looking or there are no vehicles. Teaching them from young is the key to preventing accidents later. ■

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IEM DIARY OF EVENTS

Title: 2-Day Course on Implementing of KAIZEN for Chemical Products/process

7 - 8 March 2018

Organised by : Chemical Engineering Technical Division
 Time : 9.00 a.m. - 6.30 p.m.
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