Speeding -
Did you know?

'Safe System' – the key to managing road safety

1. What is the 'Safe System' approach to road safety?
The 'Safe System' approach advocates for a safe road system, better adapted to the physical tolerance of its users. The Safe System was officially endorsed by the Australian Transport Council in 2004 and adopted by all Australian state and territory road authorities, including NSW. It has guided the development of subsequent National Road Safety Action Plans and underpinned the development of the National Road Safety Strategy for 2011 to 2020. The setting of speed limits is now based on this approach so that avoiding death and serious injuries, becomes a priority.

2. Who developed it?
Australia's Safe System approach shares principles in common with well known national strategies such as Sweden's *Vision Zero* and the Netherlands' *Sustainable Safety* approaches.

Sweden's Vision Zero approach
Vision Zero was adopted by Sweden in 1997 and has the long term goal of eliminating death and serious injury from the road transport system. Under this approach, it is unacceptable to trade off human life and health for other benefits of the transport system (eg mobility).

The Netherlands' Sustainable Safety approach
The Sustainable Safety approach was launched in the Netherlands in the early 1990's. It aims to prevent road crashes or at least minimise their severity while allowing for human capacities and limitations. The approach recognises that human beings are susceptible to injury and prone to errors. Sustainable Safety aims to prevent these errors as far as possible or to reduce their consequences by allowing for human limitations in designing the traffic system.

Australia's Safe System approach
Australia's Safe System approach reflects international best practice as defined in the Organisation of Economic Cooperation and Development's (OECD) landmark report Towards Zero: Ambitious Road Safety Targets and the Safe System Approach. This report was prepared with substantial involvement of Australian road safety officials and practitioners. The Safe System approach represents a significant shift in thinking about road safety.

The Safe System will deliver reductions in deaths and severity of injuries by coordinating the management of all the components of the transport system that impact on safety.
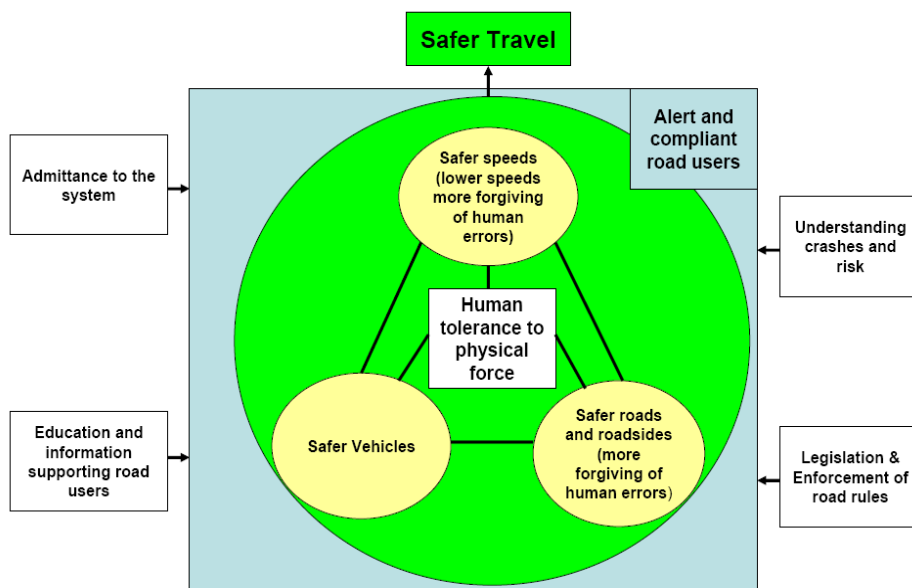
3. What are the principals of the Safe System approach?
While the Safe System approach to road safety recognises the need for responsible road user behaviour, it also accepts that human error is inevitable. It therefore aims to create a road transport system that makes allowance for errors and minimises the consequences - in particular, the risk of death or serious injury. By taking a total view of the combined factors involved in road safety, the Safe System approach encourages a better understanding of the interaction between the key elements of the road system: road users, roads and roadsides, vehicles and travel speeds (see diagram below).

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Despite the system allowing for human error, if drivers are exceeding the 'safe speeds' the safe system approach will not be as effective. Controlling driver speeding behaviour is critical to the success of the safe system approach.

Safe System

Source – Australian Transport Council

4. How does the road user benefit?

The Safe System approach to road safety recognises the need for responsible and compliant road user behaviour, but also accepts that human error is inevitable. It therefore aims to create a road transport system that makes allowance for errors and minimises the consequences -: in particular, the risk of death or serious injury.

The safe system aims to have alert and compliant road users and has three core components:

- Safe roads and roadsides - a transport system designed to make a collision survivable through a combination of design and maintenance of roads and roadsides.
- Safe vehicles - the design of vehicles and their safety equipment to include protective systems including electronic stability control, air cushions, etc.
- Safe speeds – the speed limit should reflect the road safety risk to the road users.

These three core components operate in an environment where road users are encouraged to be alert to risk and compliant with the rules of the system.

Through a combination of these components, the Safe System approach aims to design and build a transport system that will protect road users and reduce the number of deaths and serious injuries.

5. How critical a factor is speed in the Safe System approach?

Achieving a Safe System of road travel is based on an understanding that the human body is vulnerable and unlikely to survive an uncushioned impact at a speed of more than 30 km/h. Even relatively low speeds can kill or seriously injure unless the vehicle and the road and roadside environment take account of the physical vulnerability of all road users. The main objective of the Safe System is to ensure that in the event of a crash, the impact forces released are within the boundaries of human tolerance and that no fatalities should occur and serious injuries are reduced.

The chances of surviving a crash decrease rapidly above certain impact speeds, depending on the nature of the collision. The diagram and table below show the estimated crash impact speeds based on the safest vehicles, where the forces are likely to exceed the tolerance of the human body, i.e., those crashes that are likely to result in death

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or serious injury (Austroads: Balance between Harm Reduction and Mobility in Setting Speed Limits: A Feasibility Study.)
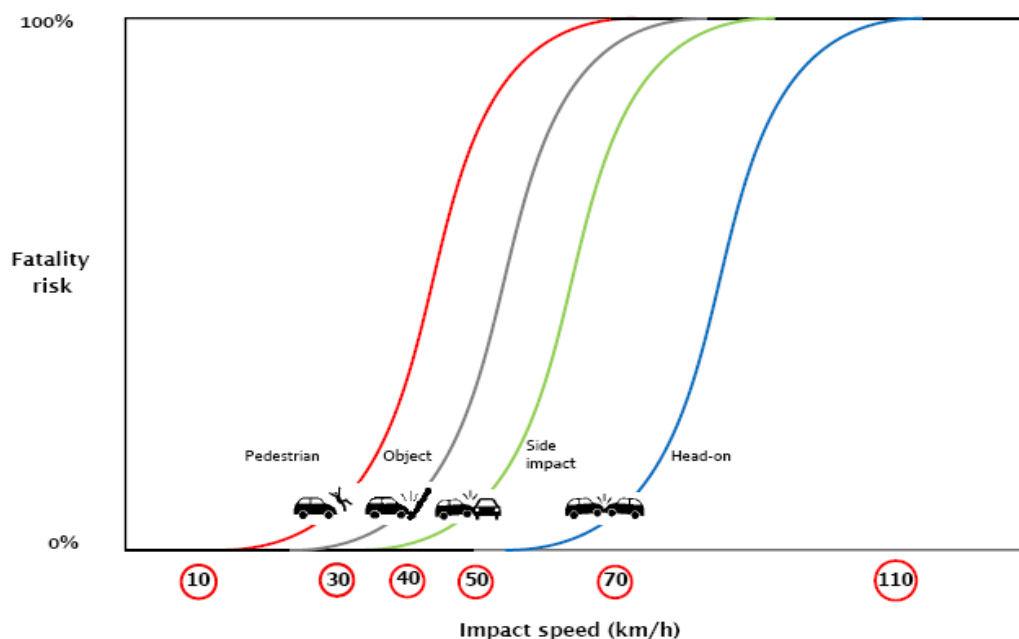
IMPACT SPEEDS ABOVE WHICH CHANCES OF SURVIVAL DECREASE RAPIDLY		
Crash Type	Impact Speed	Example
Car/Pedestrian or Cyclist	30 km/h	Where there is a mix of vulnerable road users and motor vehicle traffic..
Car/motorcyclist		
Car/Pole or Tree	40 km/h	Where unprotected road hazards exist within defined clear zone.
Car/Car (Side impact)	50 km/h	Where there is a likelihood of side impact crashes (eg, intersections or access points).
Car/Car (Head-on)	70 km/h	Where there is no separation between opposing traffic streams

6.   How important is speed management in the Safe System approach?
Of the elements in the Safe System approach, speed management is critical in limiting the impact energy of crashes and underpins almost every consideration involved in the development of new and existing safety initiatives.

The Safe System approach maintains that travel speeds as well as roads, roadsides and vehicles should be designed and managed to reduce the risk of crashes and prevent serious injury or death to people in the event of a crash. This includes setting speed limits and road rules according to the safety of the road and roadside and ensuring road user awareness and compliance through signage, driver education campaigns and enforcement.

The total view of the interactive factors involved in the Safe System approach to road safety acknowledges the need to reduce the contribution of unsafe road user behaviour to road crashes through a number of measures including encouraging road users to understand crashes and the factors which contribute to them. This includes the need to:

* Be unimpaired and alert and drive, ride or cross according to the prevailing conditions;
* Comply with the rules of the road;
* Be aware of the penalties associated with their enforcement; and most importantly

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- Stick to the speed limits and be aware of the dangers of speed.

7. What is meant by the 'shared responsibility of road users'?

In recognising that road user error cannot be completely eliminated, but, can be reduced through the combination of road safety strategies designed to make a collision survivable as well as likely - the Safe System approach involves a shared responsibility.

We all make mistakes, but we all need to acknowledge the limits of our capabilities, so it is our responsibility to comply with the rules to ensure that we act within the limits of the road system's design.

This means our role as individuals is critical in achieving the common goal of reducing deaths and injuries on our roads which is impossible unless we share our responsibility as road users with vehicle designers, road authorities and the road system itself.

8. More information/contact details

For more information on speed zones and to have 'Your Say' or submit a concern, visit the new Safer Roads NSW website at www.rta.nsw.gov.au.

Contact: safer_roads@rta.nsw.gov.au

References:

The National Road Safety Strategy for 2011 to 2020.
Sweden's Vision Zero approach.
The Netherlands' Sustainable Safety approach.
Australia's Safe System approach.
Austroads: Balance between Harm Reduction and Mobility in Setting Speed Limits: A Feasibility Study.