

The 8th ATRANS Symposium

Time for A Safe Road System Action in Thailand

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Outline

- **Introduction**
- **The Safe System Approach**
- **The Need for Actions**
- **Conclusions**

The Art of Life

- To live
- To live well
- To live better

Professor Alfred North Whitehead

Road Traffic System

- The Human
- The Vehicle
- The Road

“ An accident may be considered as a ‘ failure’
in the System”

Ken Ogden

The Immense Cost

- Some 24000 of our people were killed on our roads, annually
- At a cost of some 500,000 MB to the nation

Our Job

- To prevent /fix this 'failure'

The Need to Act !

- Traditional way...100 % Helmet, tougher enforcement etc.

or

- A paradigm shift to new thinking

A new Approach

No problem can be solved from the same level of consciousness that created it

Albert Einstein

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In 1997, the Swedish parliament passed the Road Traffic Safety Bill founded on Vision Zero.

The legislation is based on four principles:

1. **human life and health are paramount** and take priority over mobility and other objectives of the road traffic system;
2. providers and regulators of the road traffic system share responsibility with drivers and other users;

3. road traffic systems should take account of human fallibility and minimize both the opportunities for errors and the harm done when they occur; and

4. providers and regulators must do their utmost to guarantee the safety of all citizens and cooperate with road users, and all three must be ready to change to achieve safety.



Human life is a rarity



The Safe System Approach

Assume..

- Competent and compliant drivers/riders
- If they are not competent, the system will help train the drivers and ensure they are

Allow...

Drivers, pedestrians to make errors and accommodate these in the road & vehicle design

Accept..

Responsibility to do the utmost to save lives of road users

Focus on 3 elements

- Safe roads and roadsides
 - Thru safe Design, maintenance and operation
- Safe vehicle
 - Ensure vehicles have good crash rating (ANCAP), safety and protective equipment (ESC, air bags, etc.)
 - But what to do about motorcycle ?
- Safe speed
 - Ensure impact speed does not cause death/serious injury

Safe System Approach

In short, under the safe system,

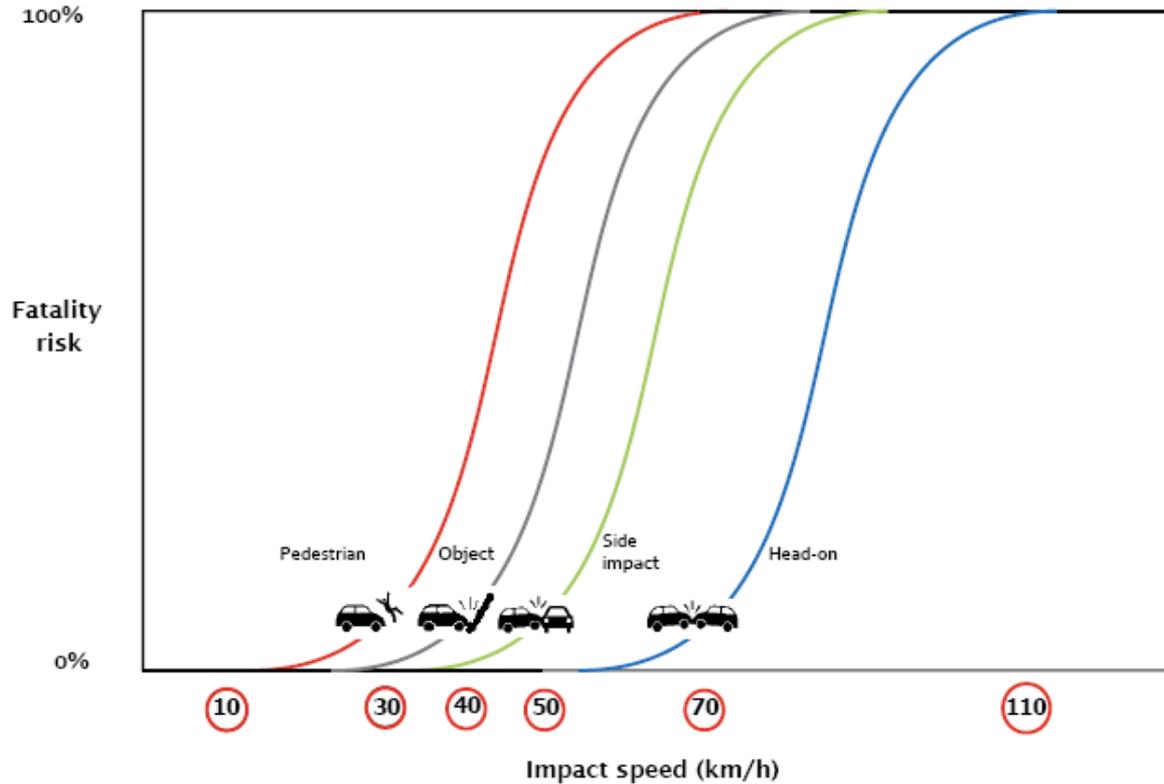
- It is unacceptable to trade off human life and health for other benefits of the transport system (e.g. increased speed).

The Safe System Approach

The basic principle is to ensure that :

In a crash, the impact energy, which largely depends on the impact speed, is not excessive as to cause death or serious injury.

Speed vs. Fatality risk



Source: Austroad

Impact speed vs. fatality risk

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



Speed of 30 kph can kill, The need to reduce speed when highway passes thru school/community

29 17:36

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Chain of Events

Knowing that one defective element can lead to a crash :

H : Human Errors

I : Infrastructure Defects

V : Vehicle Defects



No helmet for all, fail to comply or failure to enforce ?



To teach “To be alive is paramount”



A fatal crash, a human error was made

5 Navy officers killed Surat thani 6.7.15



The system fails to provide a safe median



An Unsafe System could not protect an errant driver



A Faulty design (providing a front basket)
that has probably killed thousands



By inadvertently encouraging riders not to wear helmet



The most vulnerable road user

In Thailand, Motorcycles make up some 61 % of the total number of registered vehicles of 28,484,829.

74 % of deaths involved motorcycles,

The Most vulnerable road users

74 % MC ~ annual 20,000 deaths



2013 Global Status Report on Road Safety

- The report highlights the **important role that road infrastructure can play in reducing injuries among all road users**, including pedestrians, cyclists and motorcyclists.
- It recommends that governments implement regular **road safety audits** to assess safety levels of both existing and new road infrastructure projects.

The Safe System Approach

Requires:

the system designers/providers
to take actions to save lives

2 points ...

1/the MC Industry,

2/the Road Designer

The MC Action

- 1st line defence : the Rider
- 2nd line defence : the Motorcycle Lane
- 3rd line defence : the Motorcycle and
the Helmet

The Shared Responsibility

The Safe System Approach is about shared responsibility

- The riders must do their part
 - Eg. Get themselves properly trained, wear their helmet
- The Highway engineer must provide safe road for them
- The MC industry must provide safe vehicle

The Helmet Act

- Since 1994,
- Bkk 2014



The 100% Helmet wearing campaign

- From 44% to 46%
- Riders 53% to 54%
- Pax 19% to 24%

- source : Thai Road

Faulty design can encourage non-helmet wearing



We need MC lane, an Engineering SOLUTION



(Source: MIROS)



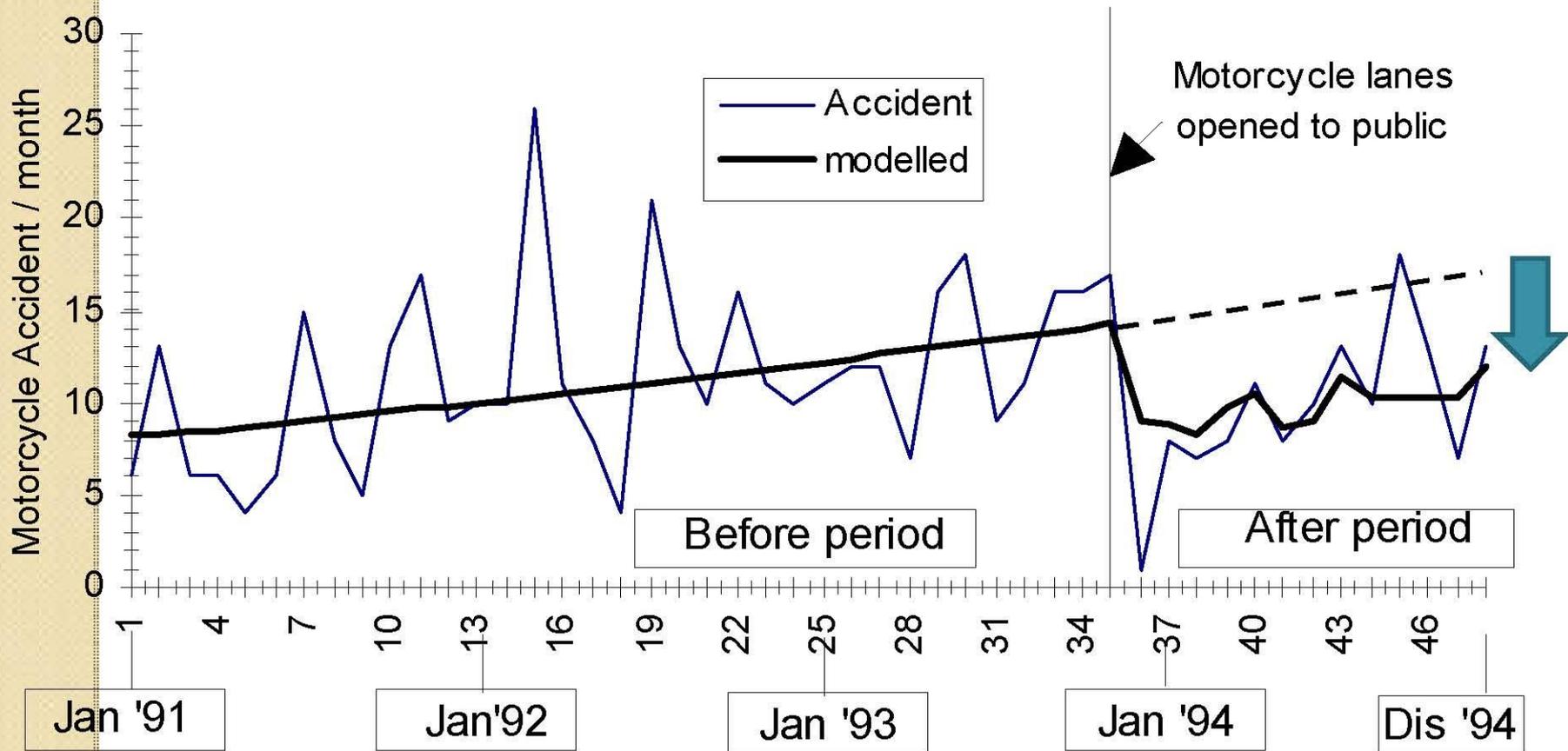
(Source: MIROS)

(NiKee, 2010)

Malaysia exclusive MC lane



Source: Radin Umar
MIROS



- **39% less Accidents**
- **83% less Fatality**
- **Benefit:Cost = 5**

Source: Radin Umar MIROS

Because a small error can mean death





Motorcycle exclusive lane in Taipei, Taiwan



An Equity as much as Safety issue



Enough pavement for MC lane



Pilot testing of MC lane in Narathiwas

-Increased safety can be achieved by the separation of motorcycles from other motor vehicles.

-MC lane width 3.5 m. or 1.75 m./lane parallel is better than other width.



1.75 m.

1.75 m.

DOH's action that has saved many lives by providing MC cum Pedestrian bridge



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Conclusions

The Safe System Principle clearly states that human life is paramount, so safety of road users must become the top priority

10 years on, the Helmet Act has only managed 50% of helmet wearing

With some 20,000 deaths involving motorcycles, the safe system requires a new training and licensing system

And provision of motorcycle lane wherever is practical, if not then impact speed management is imperative.

No one is safe until the System is safe !



Thank you

The Immediate Actions

- At the recent signing ceremony of the declaration of the Right to Safer Roads,
- the **Organization for the Right to Safer Roads** has proposed to the military government to take the following four immediate actions:

The Immediate Actions

1. Order agencies concerned with the enforcement of the 1979 Road Traffic Act and other related Acts to perform their duty strictly, fairly and continuously, especially on the 3 key issues: 1) use of motorcycle safety helmet 2) Drink and Drive and 3) Speeding. And ensure that all public servants, police, troops, and judges strictly obey the law so as to set a good example.
2. Order concerned agencies to: establish in-depth crash investigation for cases involving more than 5 killed or seriously injured persons or cases of interest so that they lead to the treatment of hazardous road locations and hazardous roadside, and publicize the outcomes; establish a monthly public reporting system on the cost of road crashes including the number of fatalities; establish a road safety audit system for existing roads, during construction stage, and design stage.

The Immediate Actions

3. Order the Land Transport Department and National Police Bureau to be more stringent in carry out their vehicle inspection according to the 1979 Land Transport Act, 1979 Motor Vehicle Act, and related regulations so as to ensure that all vehicles, especially buses are roadworthy.
4. Order that the monitoring of the above actions be reported to the Cabinet monthly.

- But so far they fall on deaf ears