



Road Safety In Nepal: How To Make It Safe



What do we need to learn and what's the implication for us?



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Crash statistics in Nepal



Over 130 road fatalities , road traffic injuries were reported in the first one and a half months of the year 2016/17 and around 2540 was died on roads

WHO's Report

- Nepal's highways are the most dangerous in the world.
- The 2013 report shows 1,677 fatalities per 1000,000 vehicles in a year
- The respective figures for India, China, and Japan are 100, 36 and 7



Means in 2015: Nepal 1 person died in 5 accidents whereas Japan 1 death in 150 accidents



Road Safety in Australia



The annual economic cost of road crashes : estimated at \$27 billion per annum—and the social impacts are devastating.

The Australian Government: regulating safety standards for new vehicles, and for allocating infrastructure resources, including for safety, across the national highway and local road networks.

State and territory governments: funding, planning, designing and operating the road network; managing vehicle registration and driver licensing systems; and regulating and enforcing road user behaviour.

Local governments: have responsibilities for funding, planning, designing and operating the road networks in their local areas.

The annual life lost: 1243 – 2017/2018 and in Victoria: 249



Why Nepal's Road are so danger



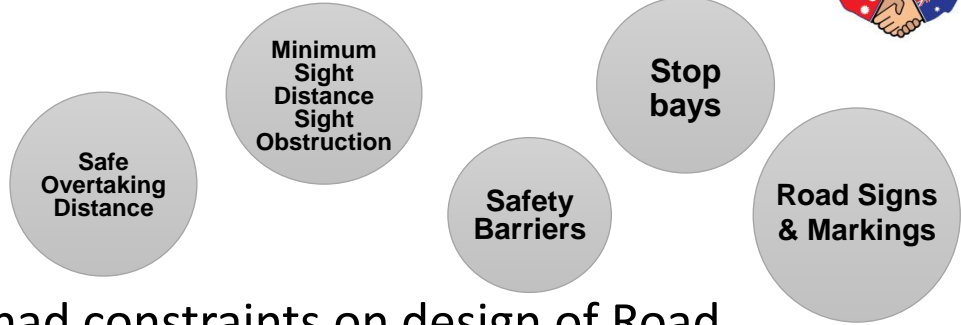
- Design Parameter & Constraints
- Lack of Traffic Control Devices /Treatments
- General awareness & harmony among road users
- Lack of licensing graduation system
- Less priority on Vehicle roadworthiness
- Lack of strategic safety system implementation



Design Parameter & Constraints



- Every road are designed for:
 - Specific traffic load
 - Specific speed
 - Specified types of vehicles
- Geography & Economy always had constraints on design of Road



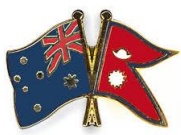
More than design traffic (Lane?)



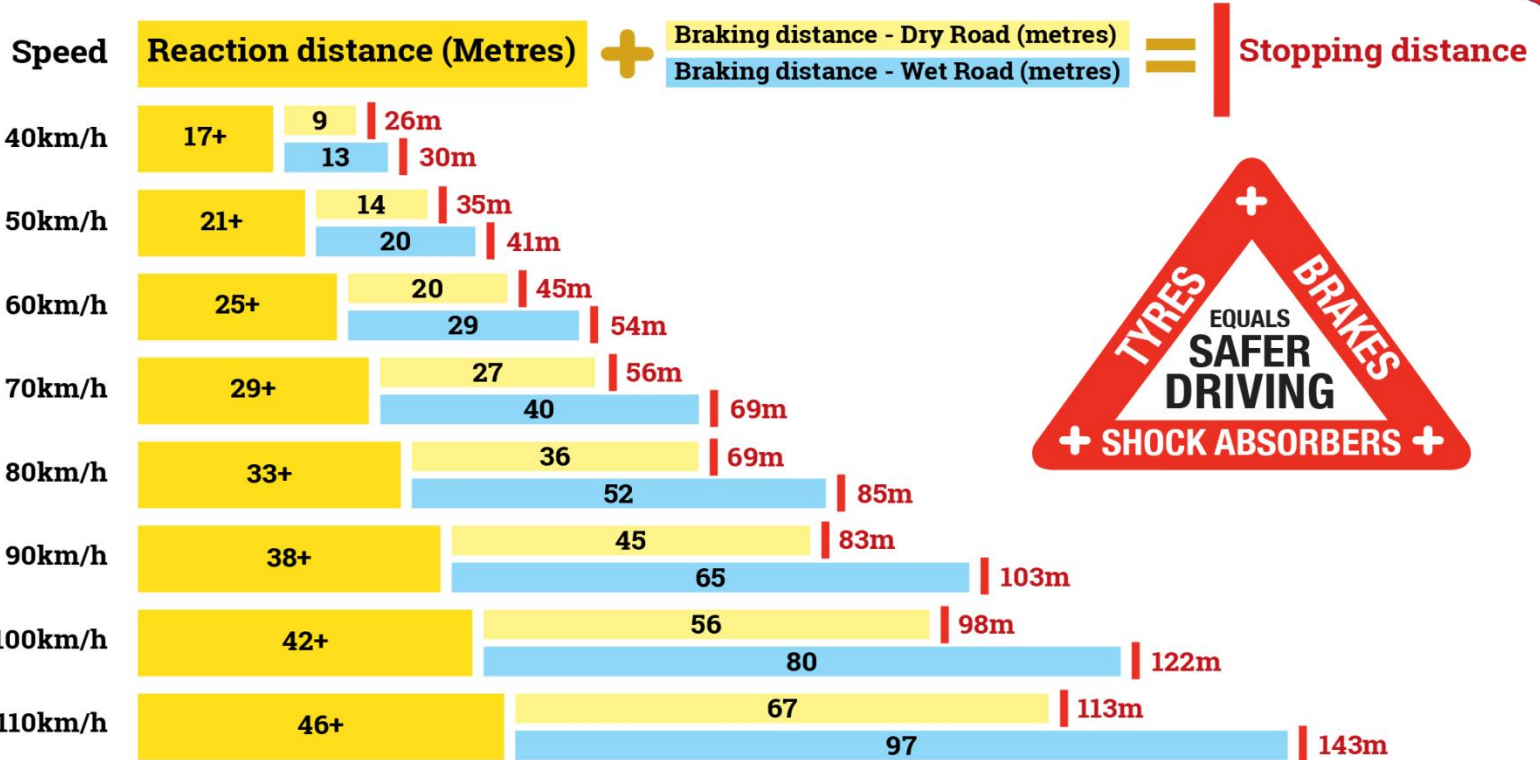
No speed signs (Design Speed?)



Road not for this Vehicle type



Design Parameter & Constraints: safety concern -Speed



Speed limits determined by so many factors > **Go Above** > **Increased risk (Don't risk it!)**



Lack of Traffic Control Devices /Treatments



- Traffic Signals, Traffic signs, line markings etc.
- Junctions - road hierarchy – entering, exiting & merging roads
- Traffic treatments – roundabout, island, lane separator, slip lane etc.





Lack of Traffic Control Devices /Treatments



Road Markings, Signs & Signals

- Various road markings, signs and signals to enforce road rules & safety
- Must obey the road markings, signs and signals otherwise penalties apply
- <https://www.vicroads.vic.gov.au/safety-and-road-rules>



Road Markings

- Road & lane dividing line (broken, continues, double)
- Special purpose lane (bicycle, transit, bus, tram, truck)
- arrows, instructions (Keep Clear, Must Exit etc.)
- Painted traffic island
- Pedestrian Crossings (Zebra Crossing)
- Stop, give way marking



Lack of Traffic Control Devices /Treatments



Giving way at an intersection

- Vehicles turning right at intersections must give way to oncoming traffic, vehicles on the main road and vehicles turning left
 - Give Way Sign

You must give way to vehicles already in, entering or approaching the intersection

- Stop Sign

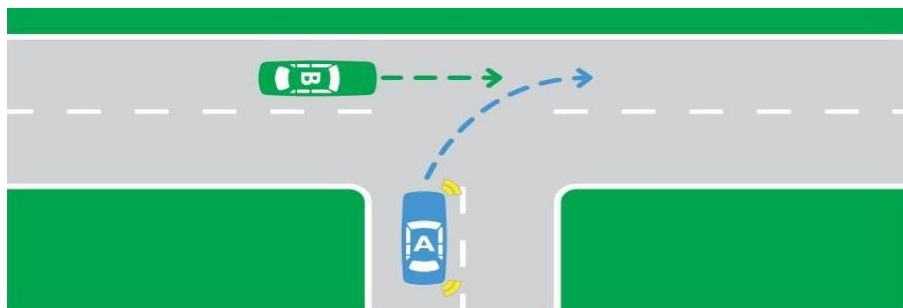
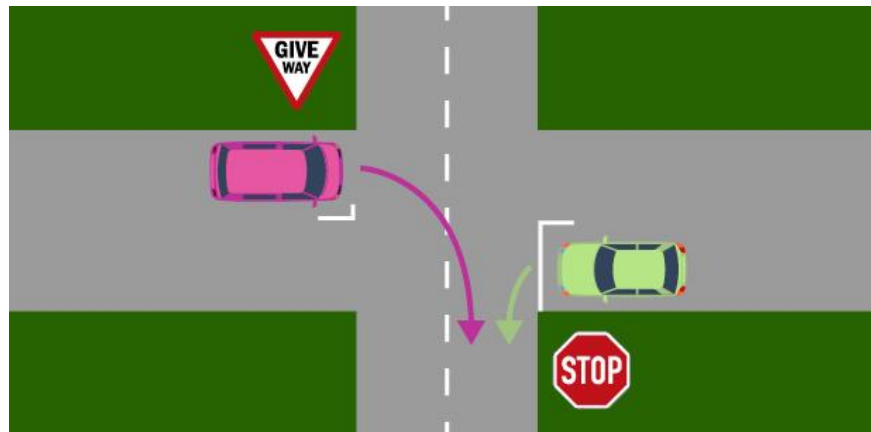
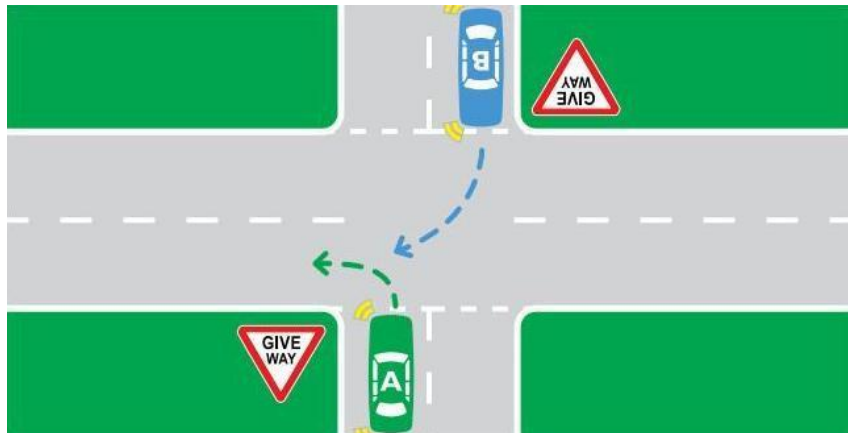
The same rules that apply for a Give Way sign, except you must come to a complete stop before giving way





Lack of Traffic Control Devices /Treatments

Who has right of way in these examples?

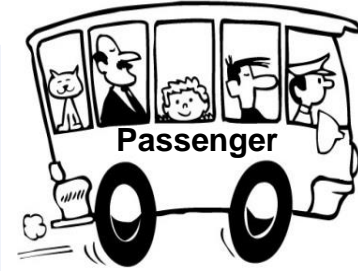




General awareness & harmony among road users



- Road users hierarchy (vulnerability VS mussels)
- Pedestrian crossing – unavailability, disuse & priority
- Hierarchy of traffic - slow moving , public, riders
- Distracting passenger
- Cooperation, respect & Rules abiding
- Lack of perception of other road users





General awareness & harmony among road users



How to make it safe for yourself & others?!!!?

Understand

- Shared use of road
- Vulnerable road users
- Road rules / safety standards
- Responsible use of road
- Situational awareness
- Danger in road

Communicate

- Signals
- Sounds
- Gesture / body language
- Eye contact
- Raise alarm / Inform

Cooperate

- Acknowledge other users
- Give priority to vulnerable users
- Follow instructions
- Assist, if appropriate



General awareness & harmony among road users

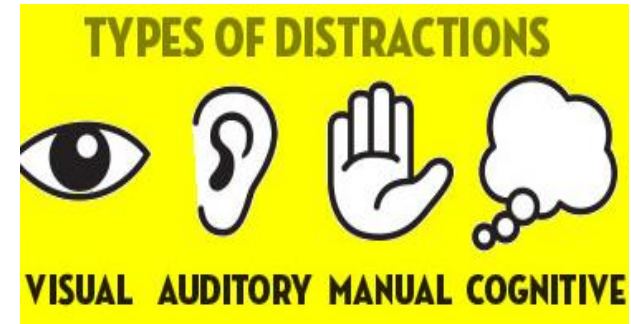


Other Safety Concerns - Distractions

- Music / Navigation / AC
- Eating / Drinking / Smoking
- Pets / Children / luggage
- Visual distraction outside
- General talk/ arguments
- Thinking of other things
- Mental status – emotions



- Phone is the most distractive while driving
- Penalties applies
- Smartphone distract from all dimensions





General awareness & harmony among road users



Crash Risk

| Risk activity undertaken by drivers | Risk (odds ratios) |
|--|--------------------|
| Dancing in seat to music | 1.0 |
| Interaction with passenger | 1.4 |
| Eating | 1.8 |
| Talking on handheld phone | 2.2 |
| Vehicle climate control (e.g. adjusting air conditioning) | 2.3 |
| Texting on handheld (illegal) phone | 6.1 |
| Extended glances outside of car | 7.1 |
| Reaching for object | 9.1 |
| Emotion (anger, sadness, crying, and/or emotional agitation) | 9.8 |
| Reading/writing (includes tablet) | 9.9 |
| Dialling handheld (Illegal) | 12.2 |
| Drug/alcohol | 35.9 |

- Talking on a handheld phone **more than doubles** your crash risk!
- You are **6 times more likely to crash** if you are texting on a handheld phone
- You are nearly **36 times more likely to crash** if you are under the influence of drugs or alcohol



Lack of licensing graduation system



- Graduation from learners to prohibitive to full license
- Understanding of Road rules, signs, markings & signals
- Importance of road discipline (lane, signals, intersections, crossings)
- Identification and cooperation to vulnerable road users
- Understanding of distraction and safety concerns (negligence)
- Reaction to road rage, accidents etc.





Less priority on Vehicle roadworthiness



Roadworthiness, Capacity, Safety Aids >> Total Ignorance

- Vehicle only tested for pollution but no worthiness (lights, brakes, tyre, others)
- Vehicle capacity not enforced
- Safety belts child restraints not implemented





Importance of Seat Belt

Child Restraints

- Babies and young children **MUST** be put in an approved child car seat
- *They cannot be held in the lap or otherwise*
- Only children over the age of 7 can wear a standard lap-sash seatbelt



Up to 6 months
Approved rear facing
child car seat



6 months to 4 yrs
Approved rear
or forward facing
child car seat



4+ years
Approved forward
facing child car seat
or booster seat



145cm or taller
Suggested minimum
height to use adult
lap-sash seatbelt



Importance of Seat Belt



Success Starts Here
+ + + + +

www.sussexsaferoads.gov.uk

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Defensive Driving



Is about using **observation, anticipation & control** to be prepared for unexpected. Drive with

- Responsibility
- Care
- Consideration and Courtesy
- Drive at correct speed
- Correct position on the road
- Appropriate separation
- Avoid aggressive driving



Look for road conditions like Aquaplaning & Skidding

- loose gravel
- oil or diesel
- rain
- ice or packed snow
- frost in shady places
- wet mud or leaves.



Maintain your Vehicle – Lights, tyre pressure etc.



Lack of strategic safety system implementation



- Safety Assurance - Road Rules & Regulations
 - Development
 - Awareness
 - Enforcement
- Safety Operation – Infrastructure, Equipment & Users
 - Safer Road
 - Safer Vehicle
 - Safer Users
- Safety Reflection - Crash Investigation System
 - Investigate
 - Record
 - Analyse
 - Reflect





PENALTIES



Victoria has some of the harshest driving penalties in the entire world!

| Driving Offence | Demerit points (12 = instant loss of license) | Fine |
|---|--|-------|
| 'J-walking' (crossing the road at a non-crossing point) | - | \$81 |
| Not wearing a seatbelt (as the driver OR passenger) | 3 for driver 0 for passengers | \$322 |
| Not wearing a motorcycle helmet (as the driver OR passenger) | 3 for driver 0 for passengers | \$322 |
| Not wearing a bicycle helmet (as the rider OR passenger) | - | \$201 |
| Not stopping at a pedestrian or school crossing | 3 | \$403 |



PENALTIES



| Driving Offence | Demerit points (12 = instant loss of license) | Fine |
|--|--|-------|
| Speeding (less than 10km/hr over the speed limit) | 1 | \$201 |
| Speeding (between 10 – 25 km/hr over the speed limit) | 3 | \$322 |
| Speeding (more than 45 km/hr over the speed limit) | 8 | \$806 |
| Drink driving* (more than 0.05 BAC) | Loss of license for 3 months | \$484 |
| Drug driving* (any illegal substance) | Loss of license for 6 months | \$484 |

*Additionally, drivers must complete behavior training programs and have an alcohol interlock installed for at least 6 months



REFERENCES

VicRoads: www.vicroads.vic.gov.au

Transport Accident Commission (TAC): www.tac.vic.gov.au

Road Safety Advisory Council (RSAC): www.rsac.tas.gov.au/visitingdrivers/

'Road Safety Issues for People from Non-English Speaking Backgrounds' – Monash University Accident Research Centre

'Factors Contributing to Crashes Involving International Drivers in Queensland' – Centre for Accident Research and Road Safety, Queensland University of Technology

'Newly Arrived Migrants: What are the Road Safety Issues?' – Elizabeth Knight, Anne Harris & Shannon Newman

https://www.royallifesaving.com.au/data/assets/pdf_file/0004/23548/RLS_AnnualReport2018_LR.pdf

World bank road safety support program for Nepal

The Major Reasons for Road Traffic Injuries in Nepal



Thank you NEA for this wonderful opportunity.
And Thank you for listening.



Any Suggestions/ questions?

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