



## SESSION 2.1 RECAP OF DAY 1

CONDUCTING ROAD SAFETY AUDITS & APPRAISALS

PRESENTED BY: RTS & AGTTC

6 – 7 June 2023



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## GOALS AND HIGHLIGHTS: 2 DAY COURSE

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### What are the Goals of this 2-day Course?



#### **Gain an understanding of what is involved in the improvement of road safety.**

- What is the general perception about improving road safety?
- What information do we get from the media about road safety?
- Will comprehensive knowledge make all the difference?



#### **Have the knowledge and tools to make a difference, within your sphere of influence.**

- You have to be a road safety ambassador yourself.
- You will know the role players (organisational).
- You will know what is a RSA and what is involved technically.
- You will know what actions need to be taken and how to initiate those actions.



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### NOTES ON CRASH STATISTICS

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**Keep in mind when look at collision statistics**

Countries with comparable “GINI coefficients” should be preferably compared

In Africa, countries with diligent record keeping appear to fare worst.

The method of fatality reporting may have an influence.

The annual growth in vehicle population plays a role

The composition of the vehicle population plays a role

The composition of the commuter population plays a role (age, preference, etc.)

Statistical significance plays a role over longer periods



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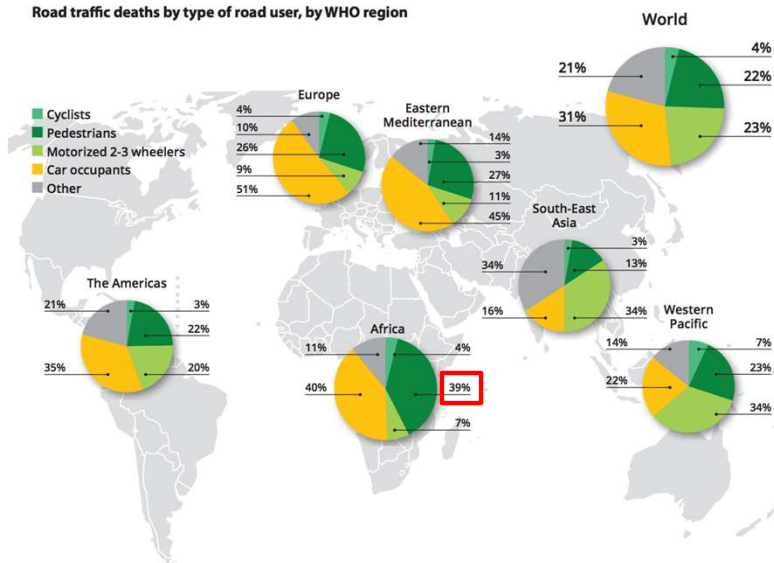
**GLOBAL AND REGIONAL STATISTICS**

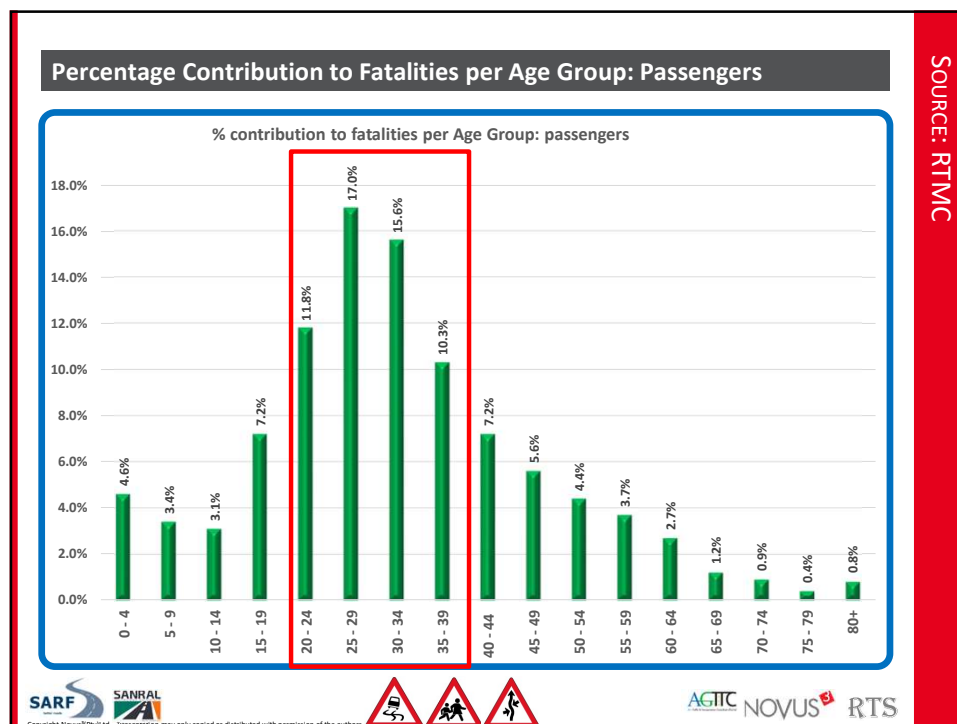
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## Leading Causes of Mortality - Global

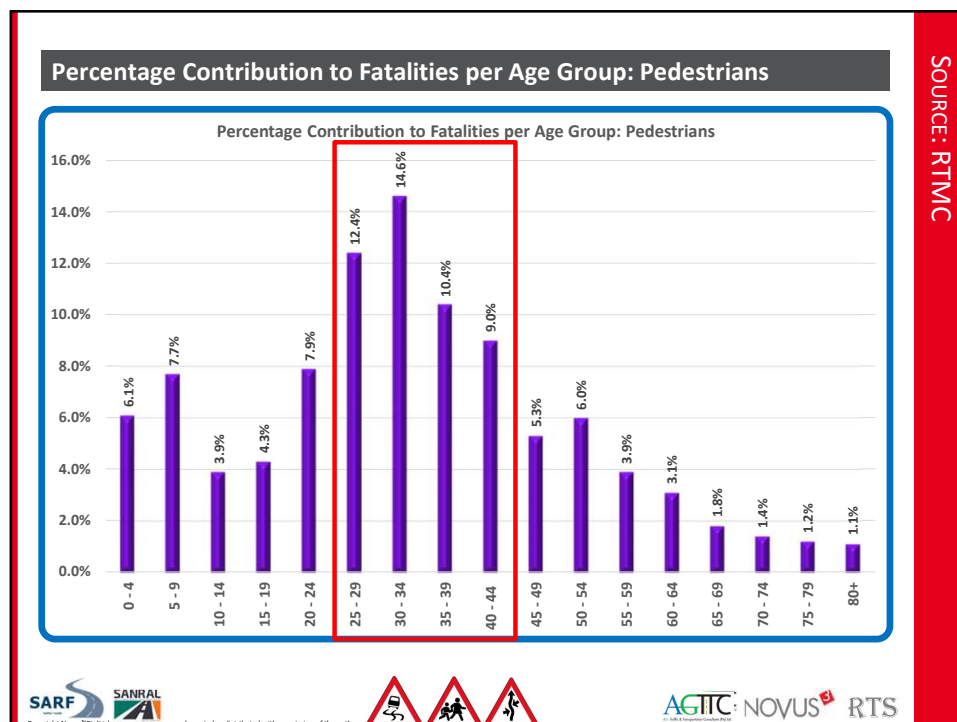
RANK	LEADING CAUSE 2004	%	RANK	LEADING CAUSE 2030	%
1	Ischemic heart disease	12.2	1	Ischemic heart disease	12.2
2	Cerebrovascular disease	9.7	2	Cerebrovascular disease	9.7
3	Lower respiratory infections	7.0	3	Chronic obstructive pulmonary disease	7.0
4	Chronic obstructive pulmonary disease	5.1	4	Lower respiratory infections	5.1
5	Diarrhoeal diseases	3.6	5	Road traffic injuries	3.6
6	HIV/AIDS	3.5	6	Trachea, bronchus, lung cancers	3.5
7	Tuberculosis	2.5	7	Diabetes mellitus	2.5
8	Trachea, bronchus, lung cancers	2.3	8	Hypertensive heart disease	2.3
9	Road traffic injuries	2.2	9	Stomach cancer	2.2
10	Prematurity and low birth weight	2.0	10	HIV/AIDS	2.0
11	Neonatal infections	1.9	11	Nephritis and nephrosis	1.9
12	Diabetes mellitus	1.9	12	Self-inflicted injuries	1.9
13	Malaria	1.7	13	Liver cancer	1.7
14	Hypertensive heart disease	1.7	14	Colon and rectum cancer	1.7
15	Birth asphyxia and birth trauma	1.5	15	Oesophagus cancer	1.7
16	Self-inflicted injuries	1.4	16	Violence	1.4
17	Stomach cancer	1.4	17	Alzheimer and other dementias	1.4
18	Cirrhosis of the liver	1.3	18	Cirrhosis of the liver	1.3
19	Nephritis and nephrosis	1.3	19	Breast cancer	1.3
20	Colon and rectum cancers	1.1	20	Tuberculosis	1.1

## Road traffic deaths by type of road user, by WHO region





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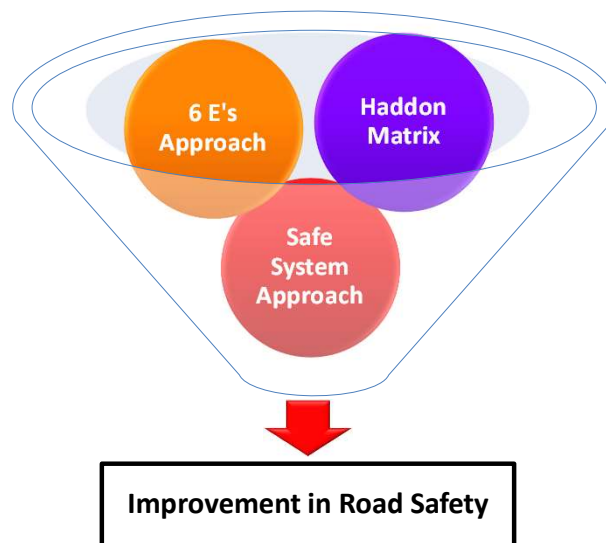


## THE HOLISTIC APPROACH TO ROAD SAFETY

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Existing, globally accepted road safety approaches.



HOLISTIC APPROACH TO ROAD SAFETY



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### The E's of Road Safety: 3, 4 and 6 Es

- **E** Enforcement strategies
- **E** Engineering strategies
- **E** Education Strategies
- **E** Emergency Response Strategies
- **E** Empowerment Strategies
- **E** Evaluation Strategies



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### Haddon Matrix

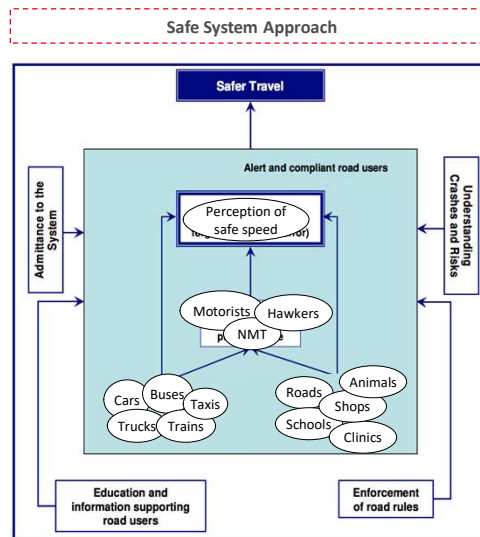
		Human factors	Vehicle factors	Road /Environment factors
<b>PRE-CRASH</b>	<b>Crash prevention</b>	Education Training Attitudes Enforcement Behaviour	Roadworthiness Crash avoidance system	Safe Road design Maintenance
<b>CRASH</b>	<b>Injury prevention</b>	Use of restraints	Restraints & Air bags Crash-worthiness	Protection and assistance Barriers, road verges, arrestor beds
<b>POST-CRASH</b>	<b>Life sustaining</b>	First aid skill Access to EMS	Ease of access Fire risk	Road verges Alternatives



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(WHO) 2004 Injury Prevention Report recommends a Safe System Approach



Humans drive, walk, cycle etc.:

- In the road environment;
- Influenced by:
  - Education related to the use of the road system;
  - Information from the road environment; and
  - Enforcement of road rules.
- Perception of safety and crash risk.
- Humans as a (varying) limited ability to process information during a potential crash situation.
- Need to promote and design:
  - Safer vehicles;
  - Forgiving roads and roadsides;
  - Appropriate (safer) speeds.
  - Given that human body can sustain limited physical force.

Safer travel, with alert road users, making the correct choices with regard to the use of the roadway.

Source: RTMC SARSAM (2012), from Austroads.



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UNDERSTANDING RISK

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### Factors Influencing Exposure to Risk

**Economic factors**

- E.g. Social deprivation

**Demographic factors**

- E.g. Population density

**Land use planning**

- Influences length of trip and mode choice

**Commuter composition**

- Mixture of speed differential

**Road design**

- Diligence, standards, adherence, audits, value engineering.

SOURCE: WHO

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### Risk Factors Influencing Crash Severity

Human Tolerance Factors

Inappropriate or excessive speed

Seat-belts and child restraints not used

Crash helmets not used by cyclists/motorcyclists

Road-side objects not crash protected

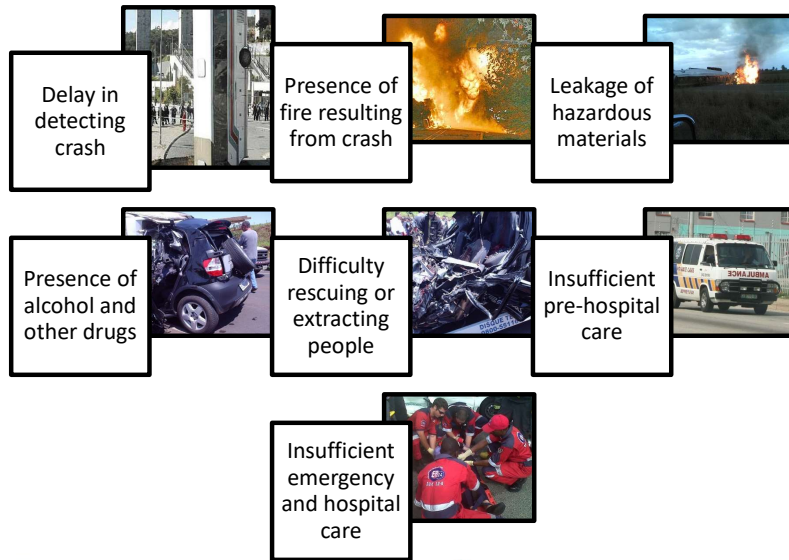
Insufficient vehicle crash protection

Use of alcohol and other drugs

SOURCE: WHO

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## Risk Factors Influencing Severity of Post-Crash Injuries



SOURCE: WHO

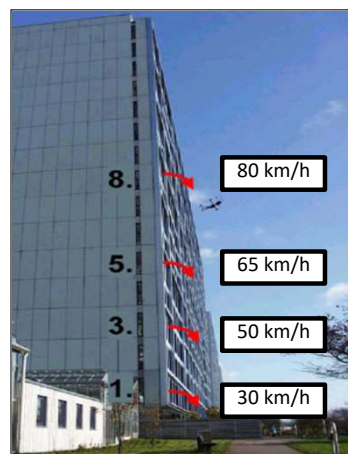
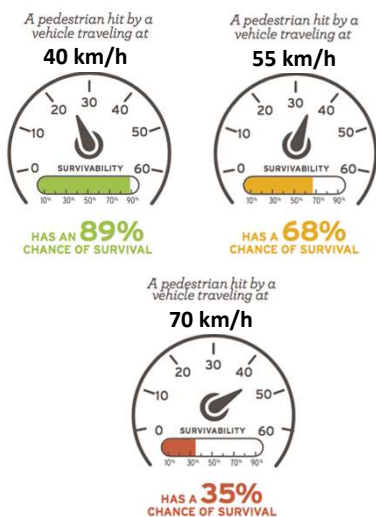


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## Vehicle speed and NMT safety



NEED FOR NMT SAFETY STUDIES



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### Resulting Level of Risk

		FREQUENCY			
		Frequent	Probable	Occasional	Remote
SEVERITY	Catastrophic	Intolerable	High	High	Medium
	Serious	High	High	Medium	Medium
	Minor	High	Medium	Medium	Low
	Negligible	Medium	Medium	Low	Low

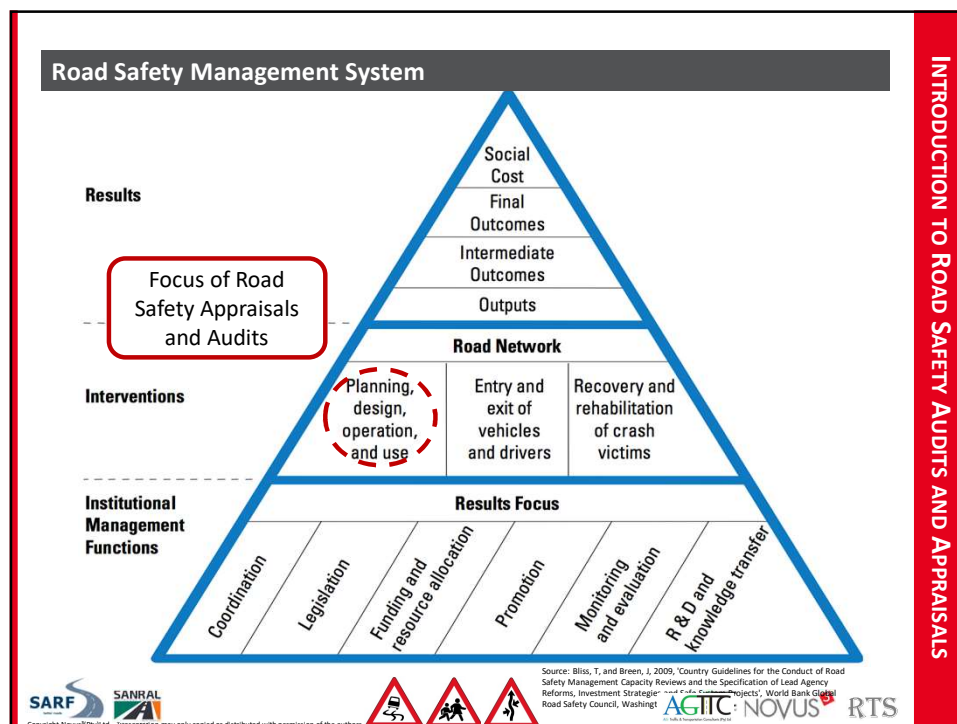
The suggested treatment action shown is indicative only. Road authorities should review the levels of risk that they would be prepared to take and develop a particular policy pertaining to the utilisation of Risk Assessment as part of road safety auditing and revise the suggested treatment actions to fit such a policy. This policy should then be implemented consistently.

SOURCE: RSM

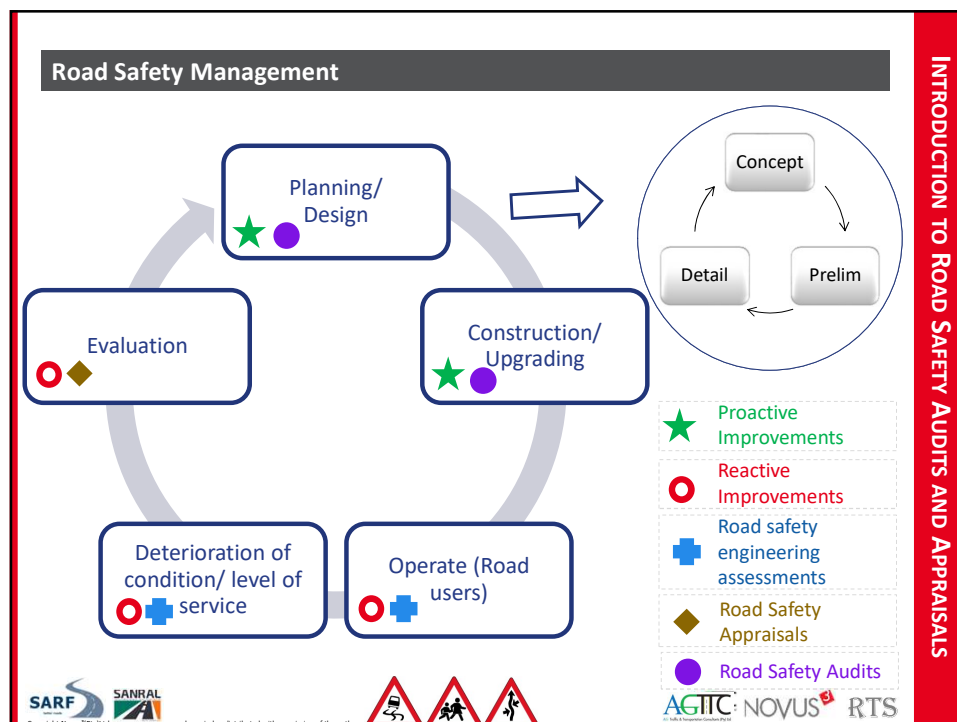
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## ROAD SAFETY MANAGEMENT

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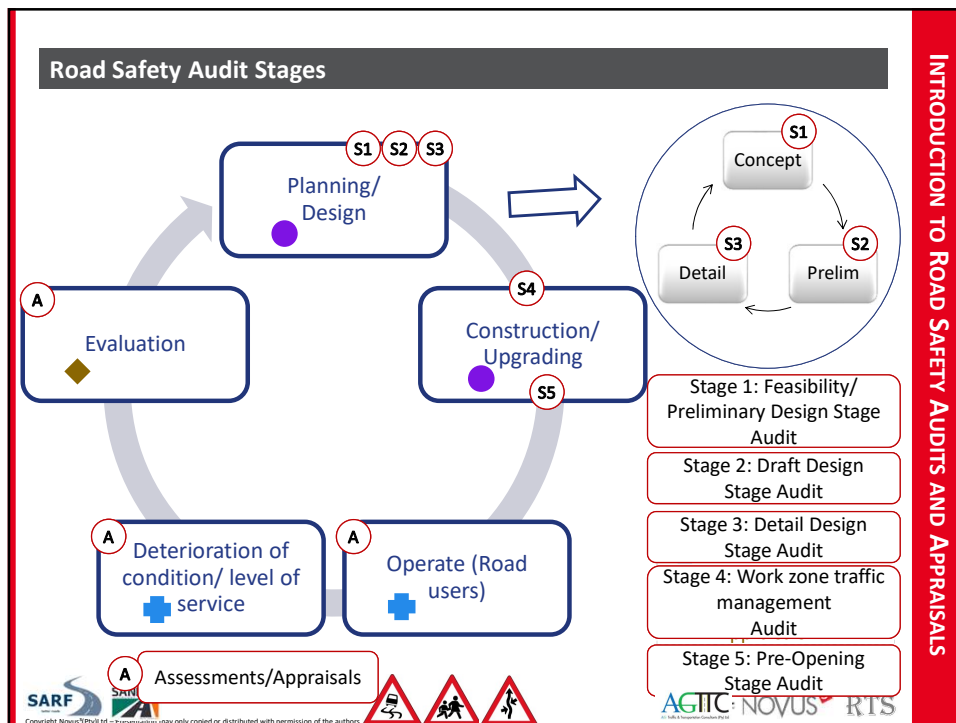
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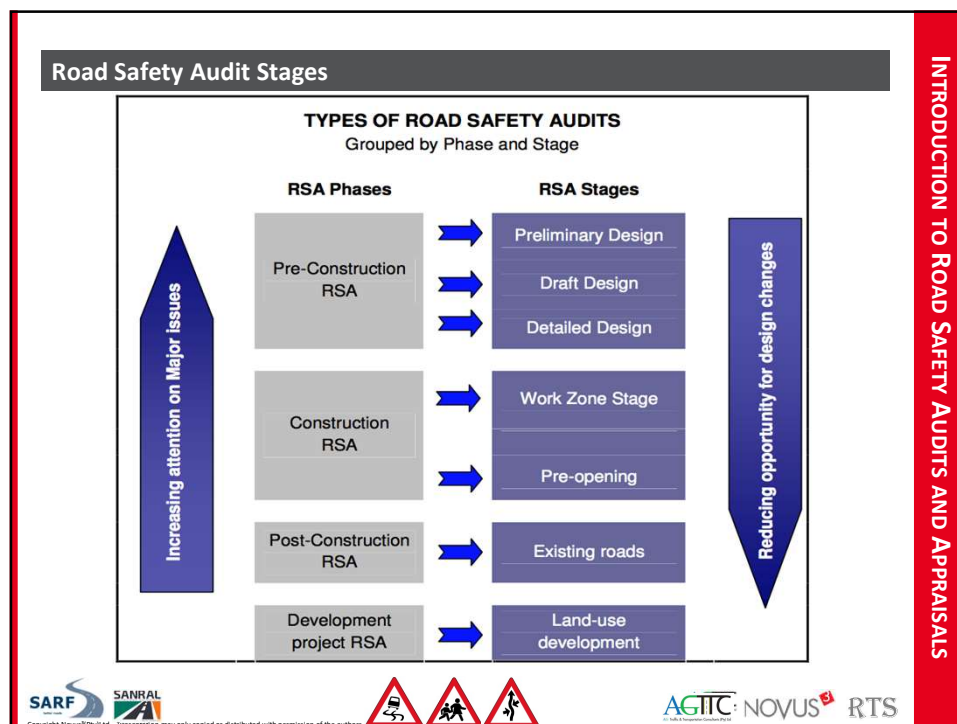
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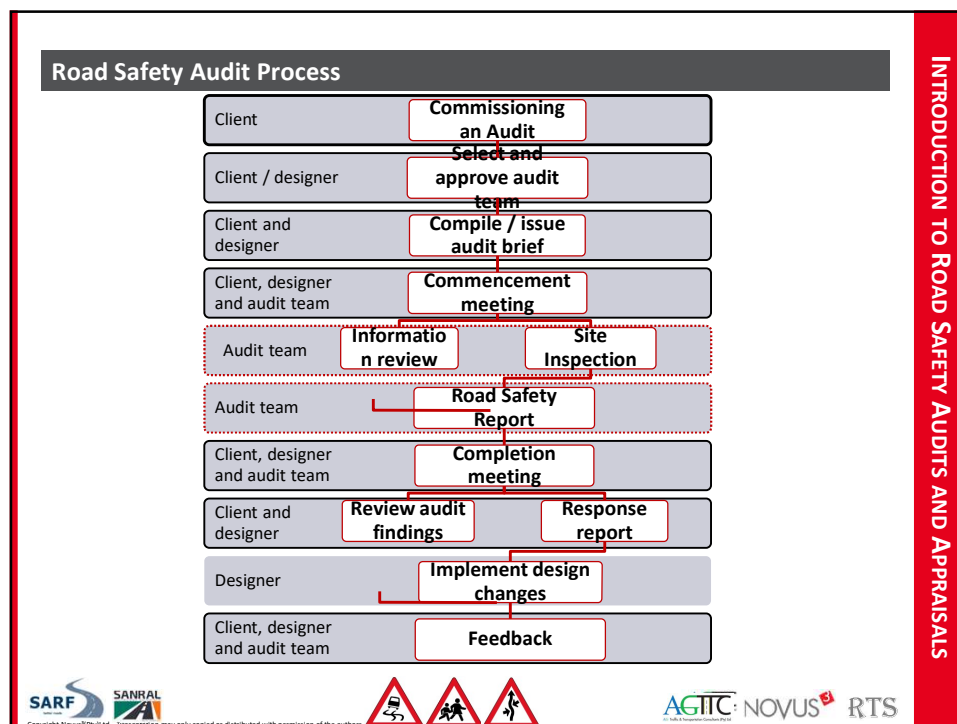
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## United Nations Decade of Action 2011 - 2020

World Health Organization

DECADE OF ACTION FOR ROAD SAFETY 2011-2020

# SAVING MILLIONS OF LIVES

- 1,3 mil people killed annually.
- 20-50 million injured per annum.
- 46% of deaths are vulnerable road users.

THE NEED FOR AND LEGAL IMPLICATIONS OF RSAS

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## National Road Safety Strategy 2016 - 2030

**Strategic Target:** Reduce road fatalities with 50% by 2030

**Strategic themes**

PILLAR 1: Road safety management	PILLAR 2: Safer roads and mobility	PILLAR 3: Safer vehicles	PILLAR 4: Safer road users	PILLAR 5: Post-crash response
Improve coordination and management	Identify and address <b>high road safety risk</b> and <b>hazardous locations</b>	Increase vehicle safety standards	Improve road user behaviour & involve communities in road safety education and awareness programmes	Improve effectiveness of first responses
Improve road safety data	Provide self-explaining and forgiving road environment for all road users	Ensure vehicles on the road network are roadworthy	Improve enforcement effectiveness	Simplify access to post-crash care
Eliminate fraud and corruption	Implement <b>road safety audit programme</b> on new and upgraded road infrastructure projects		Increase protection for VRU's	
Ensure adequate funding and capacity				
Enhance use of technology to protect road users				

**THE NEED FOR AND LEGAL IMPLICATIONS OF RSAS**

THE NEED FOR AND LEGAL IMPLICATIONS OF RSAS

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## LEGAL IMPLICATIONS OF DOING/NOT DOING RSAs

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### Legal implications of doing/not doing RSAs

Need to consider to basic South African legal principles

Criminal Law

Law of Delict  
(negligence)

Offence against public interest -  
Contravention of common law or a  
statutory offence.

State must prove guilt beyond all  
reasonable doubt.

Road authorities have statutory duties:  
the planning, design, construction,  
operation, management, control,  
maintenance and rehabilitation of  
roads.

Will be liable if it can be proven that an  
authority has done/failed to do  
something a reasonable authority would  
not/have done.

The aim of the law is to punish the  
person responsible.

Infringement against a person's rights

Damage due to a fault by the wrongdoer,  
which could be intentional or negligent.

Action is brought by the person who  
suffered the loss - must prove delict on  
balance of probabilities.

Organs of state or administrators do not  
have delict immunity.

Must prove breach of statutory duty. A  
person must suffer material damage,  
which would not have been the case if the  
duty was carried out.

The aim of the law is to compensate the  
person who suffered the loss.

THE NEED FOR AND LEGAL IMPLICATIONS OF RSAs



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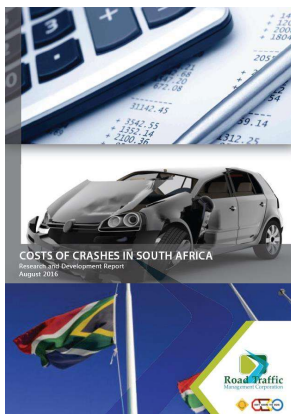


## BENEFITS OF A ROAD SAFETY AUDIT

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### Cost of Road Crashes in South Africa



Unit Cost per Road Traffic Crash (Rand)				
Fatal	Major	Minor	Damage only	Any severity
R5 435 261	R765 664	R152 244	R48 533	R171 727
Unit Cost per Road Traffic Injury (Rand)				
Death	Serious	Slight	No injury	
R3 916 187	R423 858	R71 352	R1 085	

EXPECTED OUTCOME OF A ROAD SAFETY AUDIT



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## Procedure to deal with audit findings

Audit recommendations are not mandatory, but do require a formal response with reasons or a plan of action for each finding.

Each finding in the Road Safety Audit Report can be dealt with by



*Accepting the problem and the proposed recommendation; initiating the remedial action.*



*Accepting the problem in principle, but due to other constraints, implement a partial or different solution.*



*Not accepting the finding or recommendation at all.*



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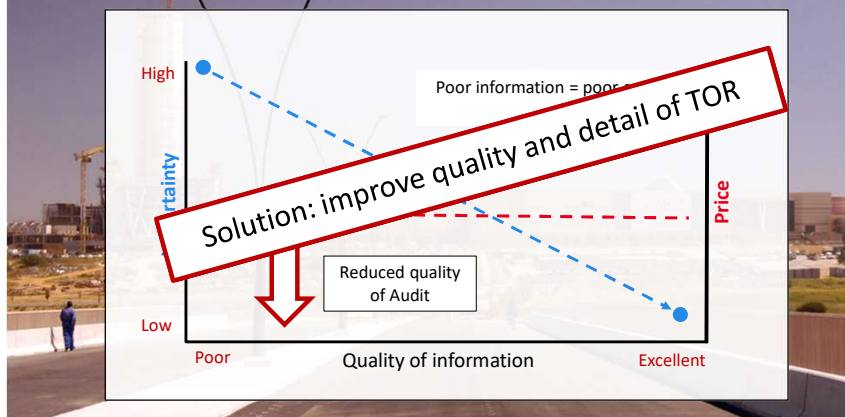


EXPECTED OUTCOME OF A ROAD SAFETY AUDIT

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## Importance of the TOR

Quality and Completeness of Brief is Critical



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THE ROAD SAFETY AUDIT TERMS OF REFERENCE

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END OF LECTURE

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