



SESSION 1.2 ROAD SAFETY CONTEXT

CONDUCTING ROAD SAFETY AUDITS & APPRAISALS

PRESENTED BY: RTS & AGTTC

6 – 7 June 2023

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NOTES ON CRASH STATISTICS

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Keep in mind when look at collision statistics

Countries with comparable levels of economic development 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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GLOBAL STATUS REPORT ON ROAD SAFETY 2018

- The number of road traffic deaths on the world's roads remains unacceptably high.
- Road traffic injuries are the leading killer of children and young adults.
- More than half of global road traffic deaths are amongst pedestrians, cyclists and motorcyclists who are still too often neglected in road traffic system design in many countries.
- There is progress being made, however, it is far from uniform across countries.
- SDG 3.6 target to halve road deaths and injuries by 2020 will not be met without drastic action.

Leading Causes of Mortality - Global

Table 1: Leading causes of death, all ages, 2016

Rank	Cause	% of total deaths
All Causes		
1	Ischaemic heart disease	16.6
2	Stroke	10.2
3	Chronic obstructive pulmonary disease	5.4
4	Lower respiratory infections	5.2
5	Alzheimer's disease and other dementias	3.5
6	Trachea, bronchus, lung cancers	3.0
7	Diabetes mellitus	2.8
8	Road traffic injuries	2.5
9	Diarrhoeal diseases	2.4
10	Tuberculosis	2.3

2016 WHO Global Health Estimates



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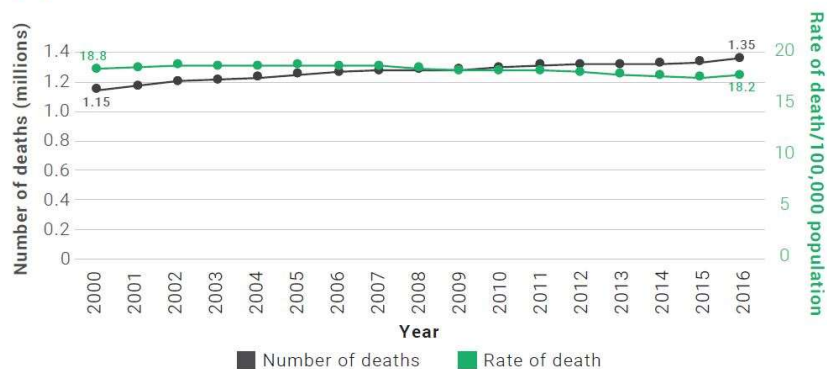


SOURCE: WHO

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WHO 2018 Number of deaths and rate per 100 000 population

Figure 1: Number and rate of road traffic death per 100,000 population: 2000–2016



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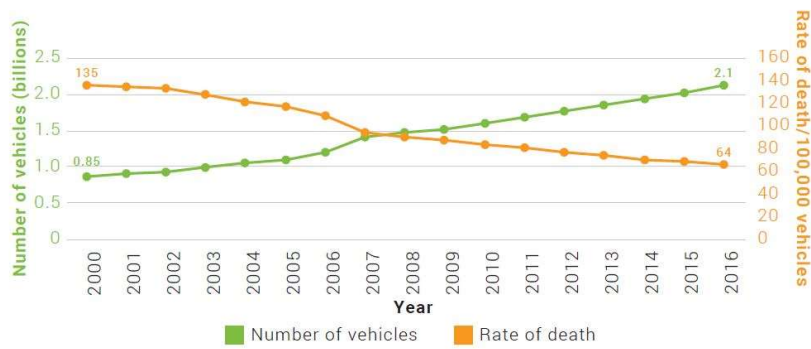
SOURCE: WHO

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WHO 2018: Number of vehicles and rate of death per 100 000 vehicles

SOURCE: WHO

Figure 2: Number of motor vehicles and rate of road traffic death per 100,000 vehicles: 2000–2016



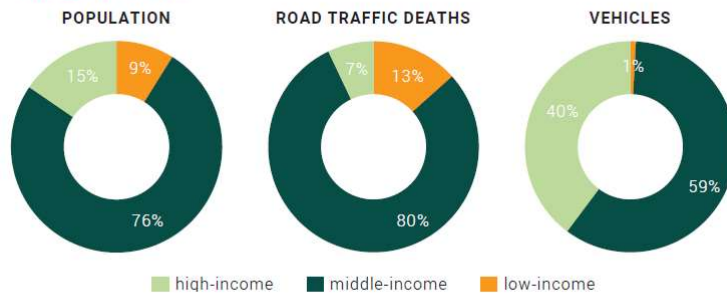
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WHO 2018: Proportions and country income

SOURCE: WHO

Figure 3: Proportion of population, road traffic deaths, and registered motor vehicles by country income category*, 2016



*income levels are based on 2017 World Bank classifications.



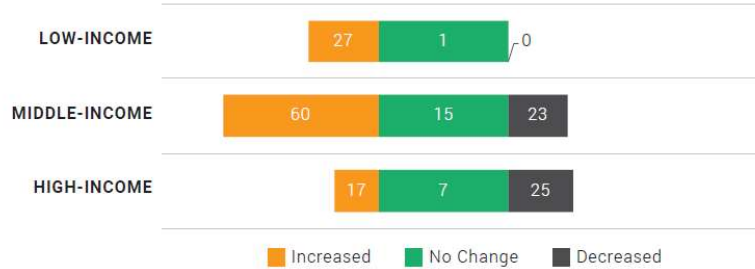
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WHO 2018: Changes in number of deaths per country

SOURCE: WHO

Figure 4: Number of countries where a change in the number of road traffic deaths has been observed since 2013*



*These data represent countries that have seen more than a 2% change in their number of deaths since 2013, and excludes countries with populations under 200 000. The income levels are based on 2017 World Bank classifications.



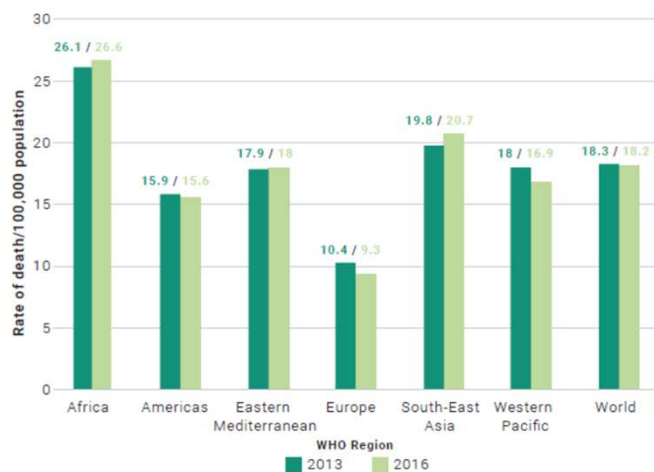
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WHO 2018: Changes in number of deaths per country

SOURCE: WHO

Figure 5: Rates of road traffic death per 100,000 population by WHO regions: 2013, 2016

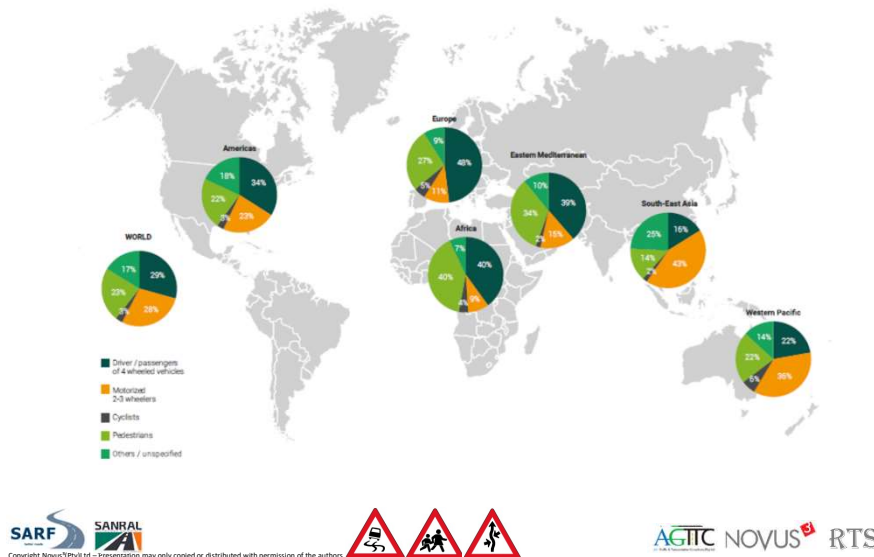


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WHO 2018: Distribution of death per user type per region

Figure 6: Distribution of deaths by road user type by WHO Region

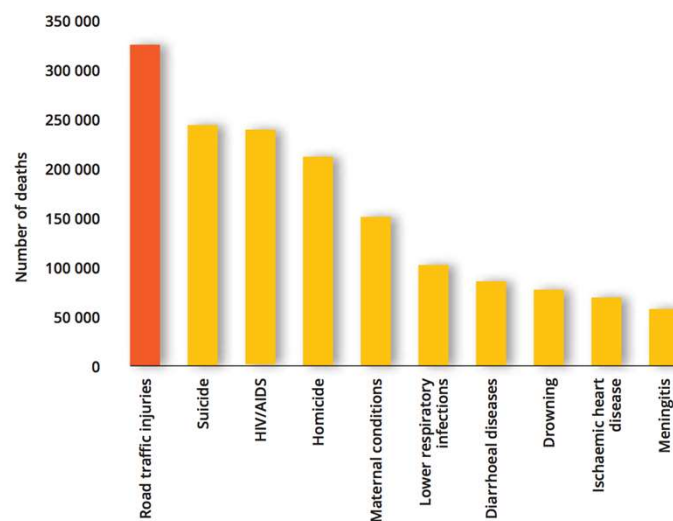


SOURCE: WHO

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World Health Organisation – Global Statistics

Top ten causes of death among people aged 15–29 years 2012



SOURCE: WHO

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WHO 2018: Targets

- Achieving global and national road safety goals and targets requires appropriate management capacity.
- Such capacity should be demonstrated through effective institutional leadership within responsible agencies, multi-sectoral coordination arrangements, sustainable funding and data systems to measure, target and monitor progress.
- The inclusion of two Sustainable Development Goal (SDG) targets focused on road safety represents a major milestone for global road safety, confirming it is an essential element of the health and development agenda.
- 12 recently agreed upon global road safety performance targets will help countries to improve their road safety management and assess progress.



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WHO 2018: Targets

Box 3: Sustainable Development Goals for Road Safety (September 2015)

3 GOOD HEALTH AND WELL-BEING



By 2020, to halve the number of global deaths and injuries from road traffic crashes.

11 SUSTAINABLE CITIES AND COMMUNITIES



By 2030, to provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities, and older persons.



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WHO 2018: 12 Targets

SOURCE: WHO

Box 4: Global Voluntary Performance Targets for Road Safety Risk Factors and Service Delivery Mechanisms, 2017



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WHO 2018: 12 Targets

SOURCE: WHO



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WHO 2018: 12 Targets

SOURCE: WHO

TARGET 3
2030



Target 3: By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better.

TARGET 4
2030



Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.



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WHO 2018: 12 Targets


SOURCE: WHO

TARGET 5
2030



Target 5: By 2030, 100% of new (defined as produced, sold or imported) and used vehicles meet high quality safety standards, such as the recommended priority UN Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.

TARGET 6
2030



Target 6: By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.



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WHO 2018: 12 Targets

SOURCE: WHO



Target 7: By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.



Target 8: By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.



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WHO 2018: 12 Targets

SOURCE: WHO



Target 9: By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in those related to other psychoactive substances.



Target 10: By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.



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WHO 2018: 12 Targets

SOURCE: WHO

TARGET 11
2030



Target 11: By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area.

TARGET 12
2030



Target 12: By 2030, all countries establish and achieve national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.



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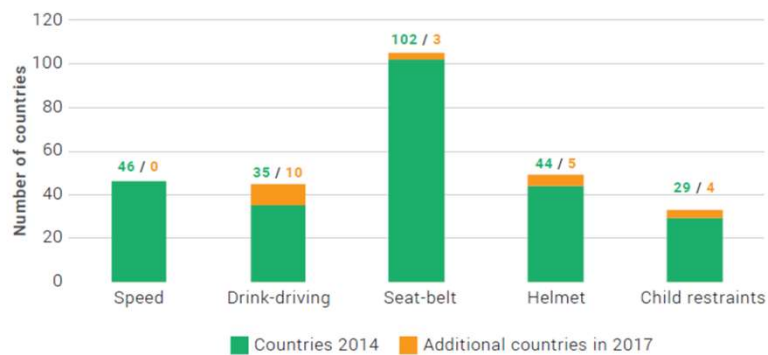


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World Health Organisation – Global Statistics

SOURCE: WHO

Figure 7: Countries with laws meeting best practice on 5 risk factors, 2014, 2017



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World Health Organisation 2018 Speed management 1

SOURCE: WHO

The speed at which a vehicle travels directly influences the risk of a crash as well as the severity of injuries, and likelihood of death resulting from that crash (26). Effective speed management is, as such, central to most intervention strategies. The setting and enforcement of speed limits represents a key component of comprehensive speed management as part of an integrated approach involving consideration of the protective quality of roads, roadsides, vehicles and human tolerance thresholds for death and serious injury (3).



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World Health Organisation 2018 Speed management 2

SOURCE: WHO

Even small reductions in speed affect fatal and serious crash risk and the effectiveness of road and vehicle interventions to prevent death and serious injury (19,27).

- An accepted principle is that every 1% increase in mean speed produces a 4% increase in the fatal crash risk and a 3% increase in the serious crash risk (28).
- A 5% reduction in average speed can reduce the number of fatalities by 30% (27).



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World Health Organisation 2018 Speed management 3

SOURCE: WHO

Small reductions in speed also influence thresholds for death and serious injury risk in different crash scenarios:

- For pedestrians hit by car fronts, the death risk rises rapidly (4.5 times from 50 km/h to 65 km/h) (29).
- In car-to-car side impacts the fatality risk for car occupants is 85% at 65 km/h (30).
- For belted occupants in the best designed cars (Euro NCAP 5-star), the threshold for severe and fatal injury have been identified as 70 km/h (travel speed at impact) in head-on car-to-car crashes (30).



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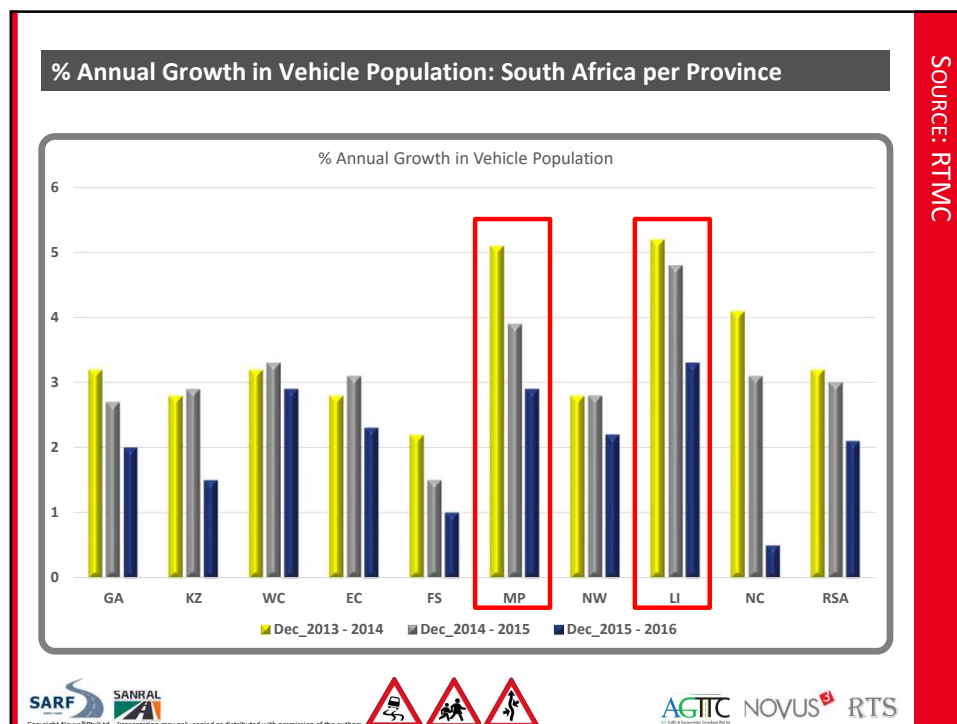
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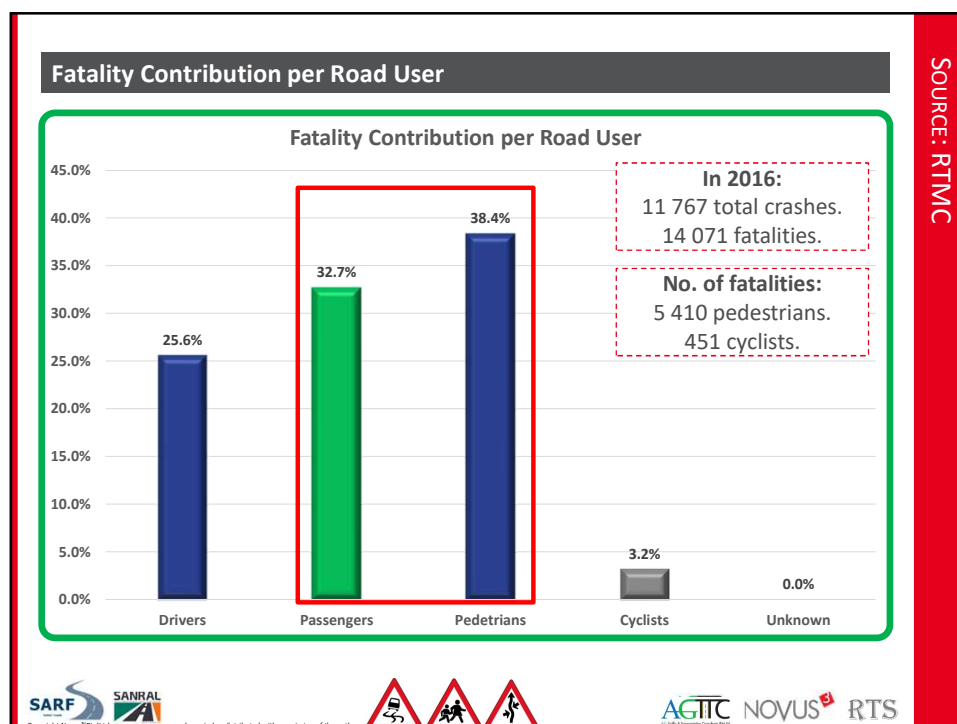
SOUTH AFRICAN FIGURES

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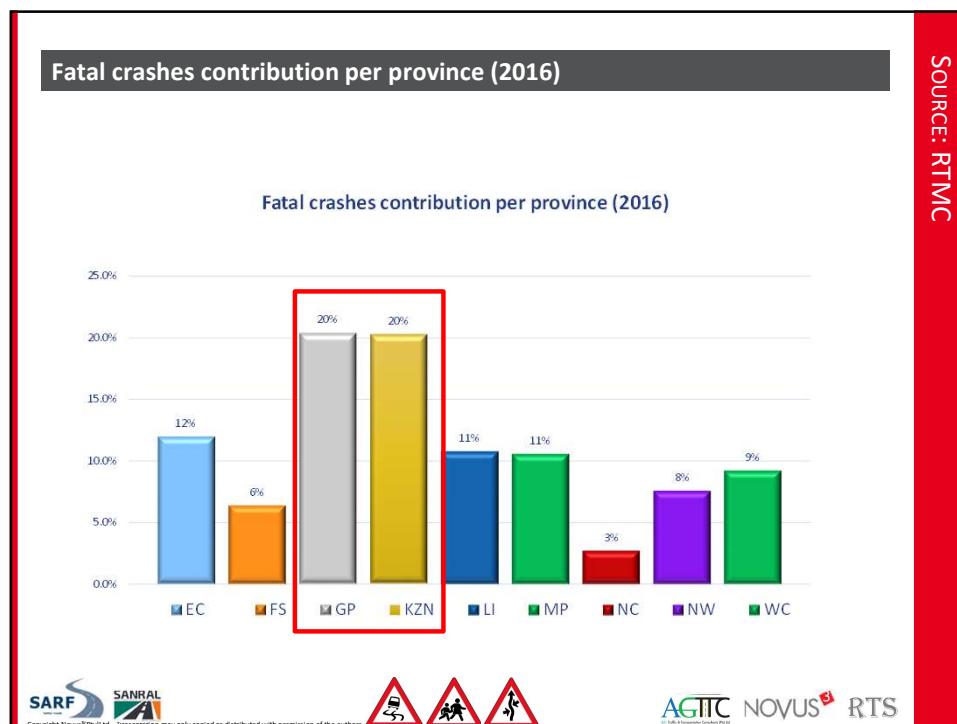
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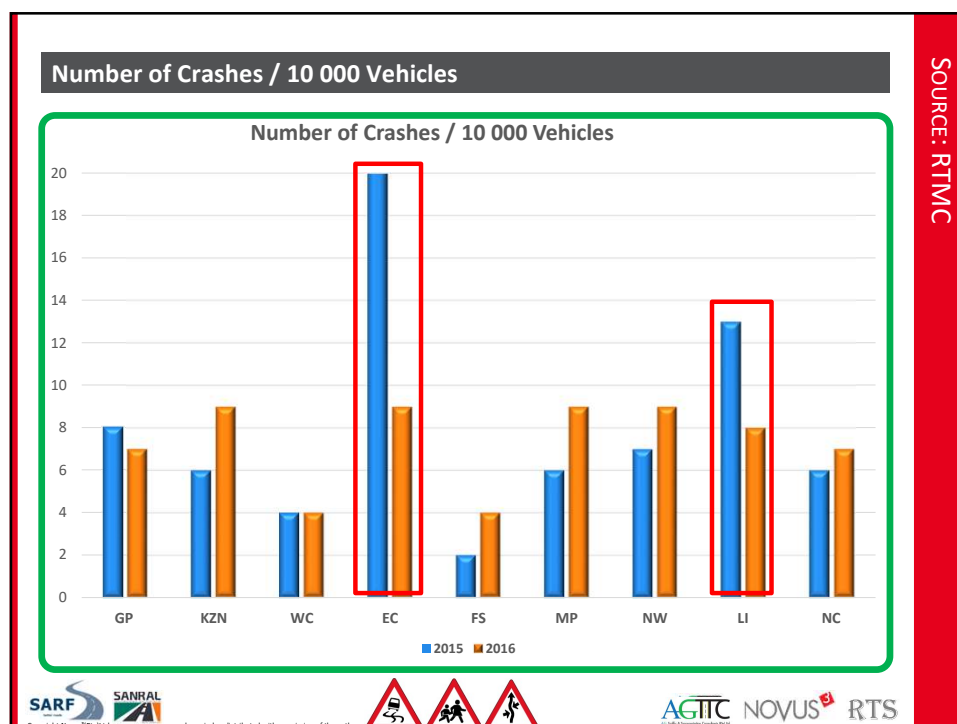
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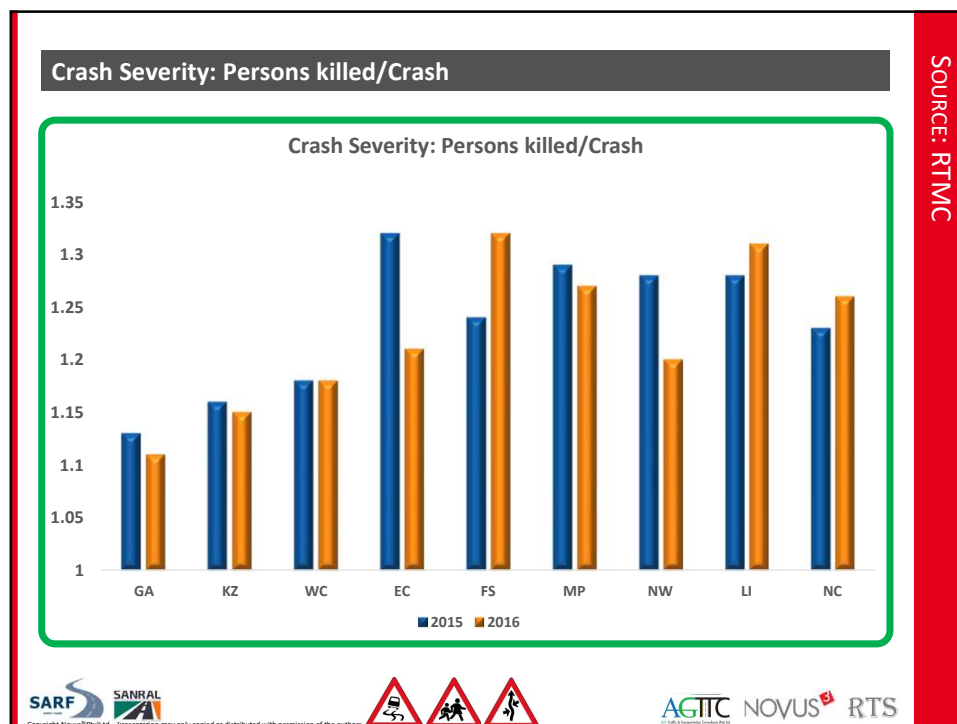
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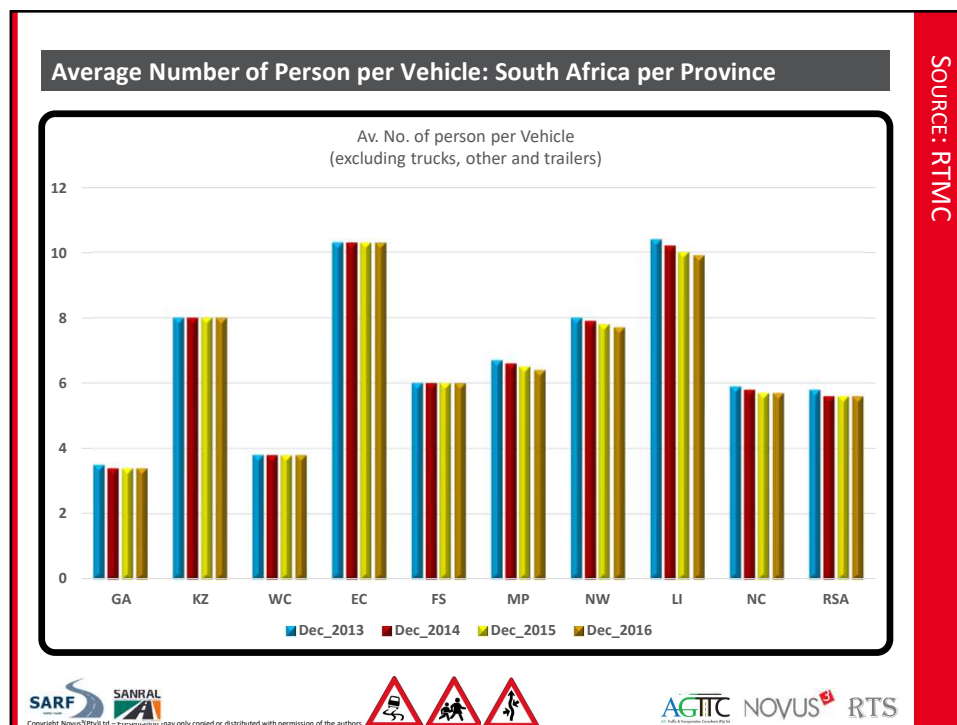
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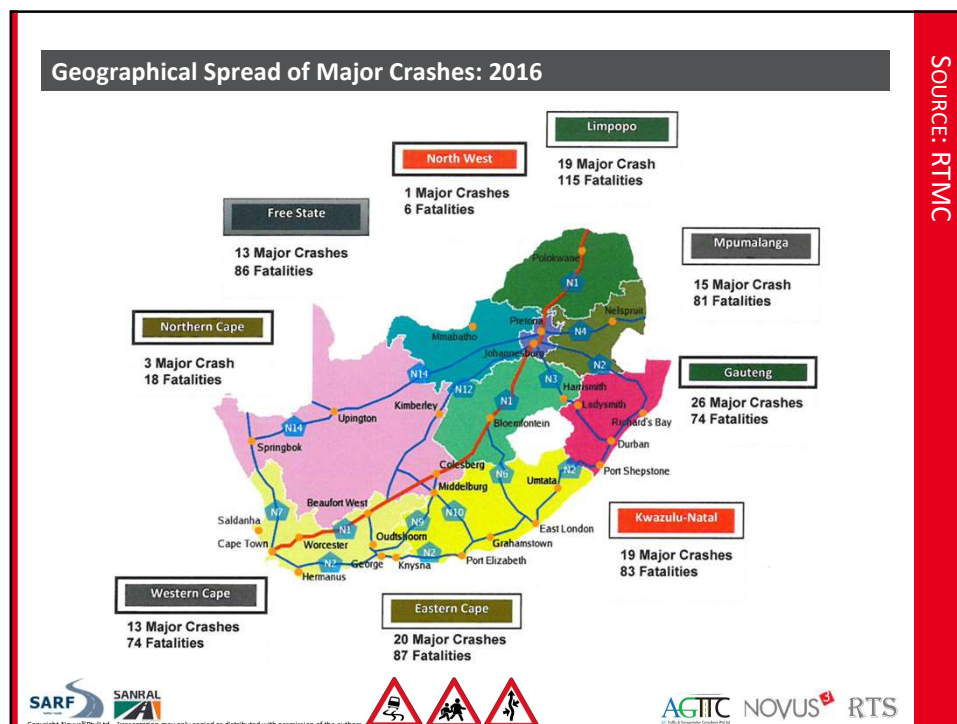
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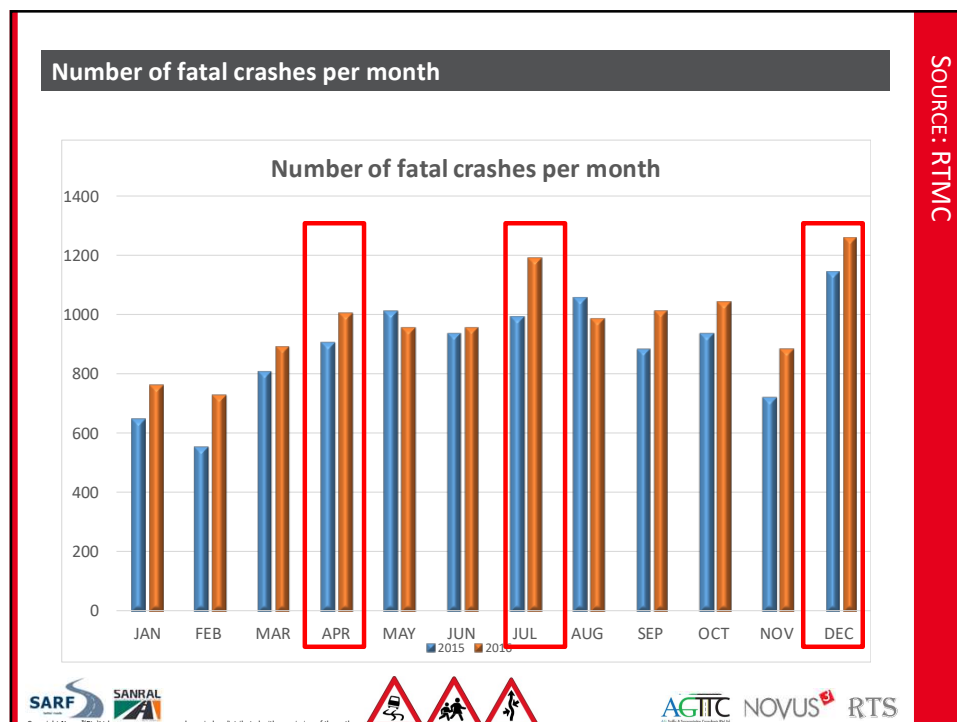
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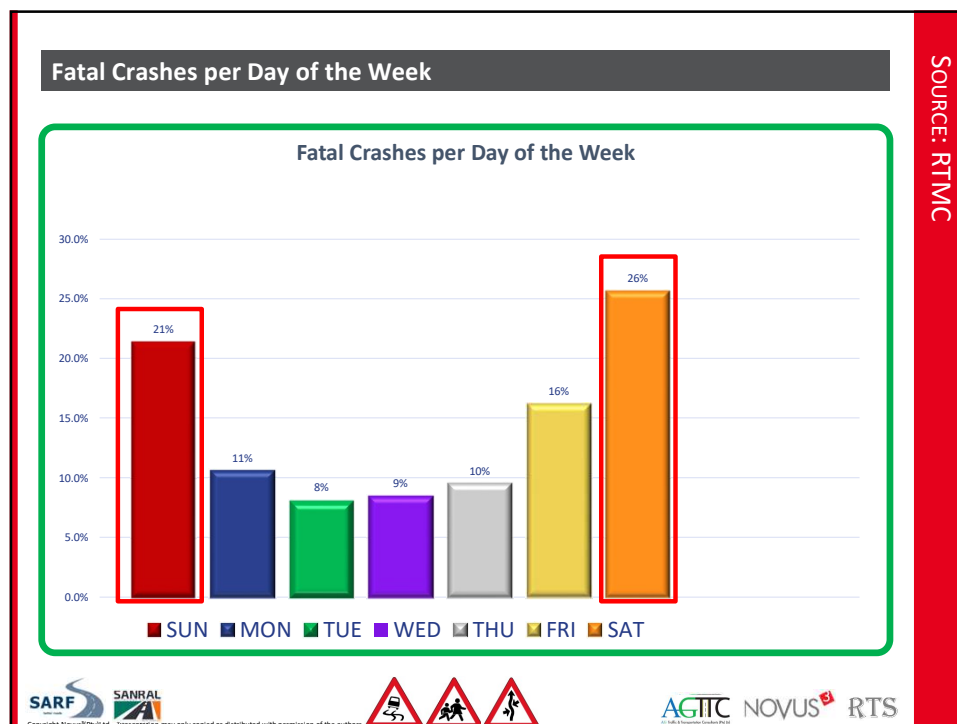
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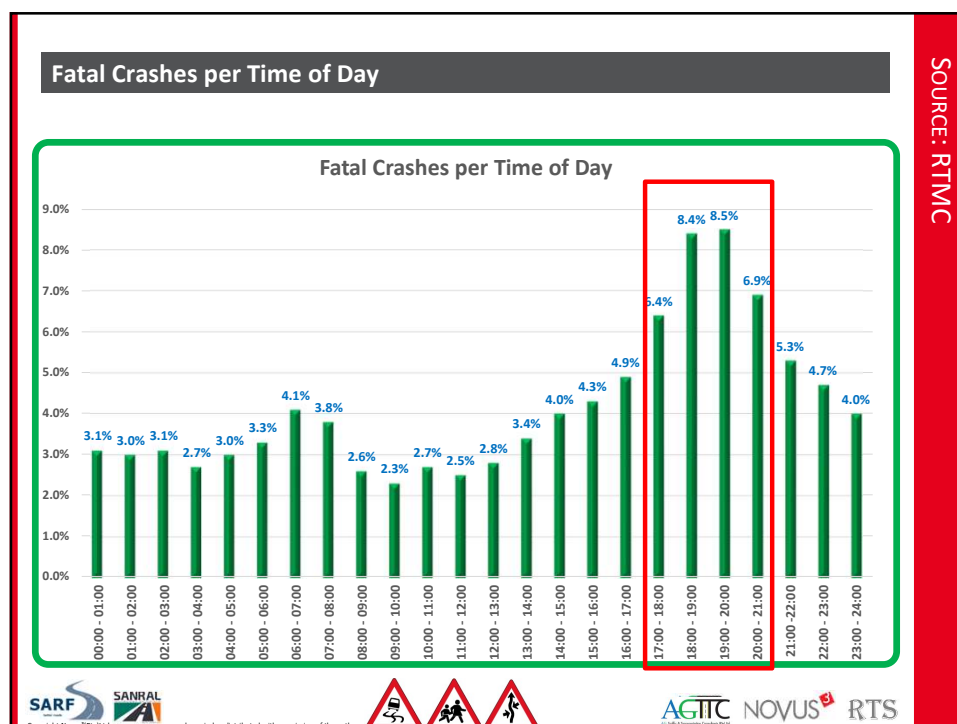
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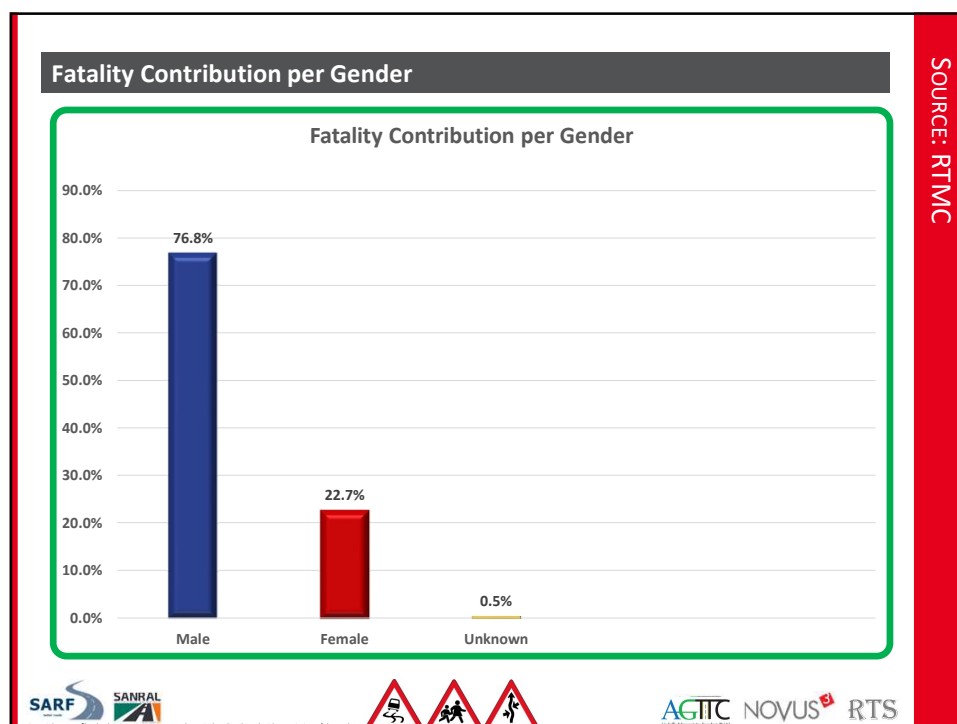
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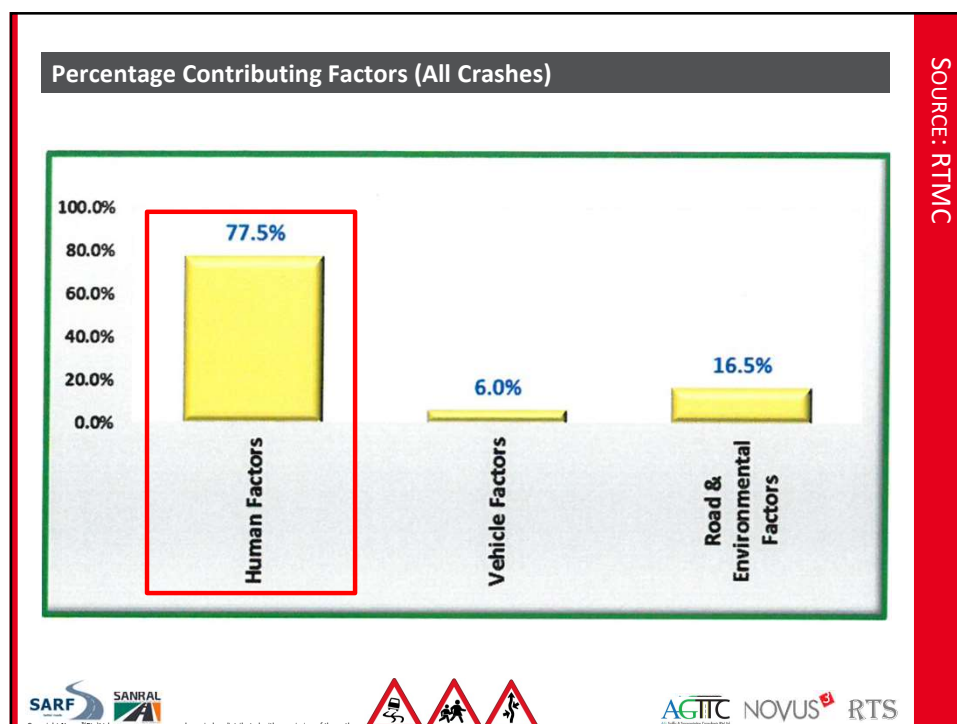
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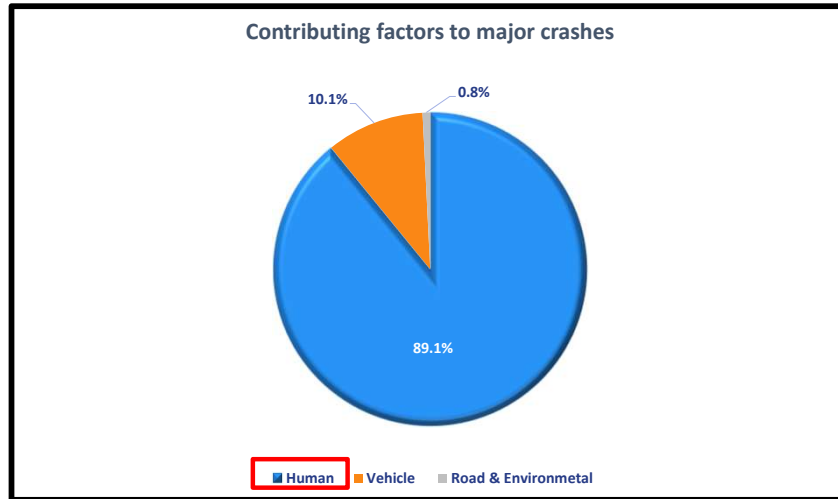
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Percentage Contributing Factors (Major Crashes)

SOURCE: RTMC



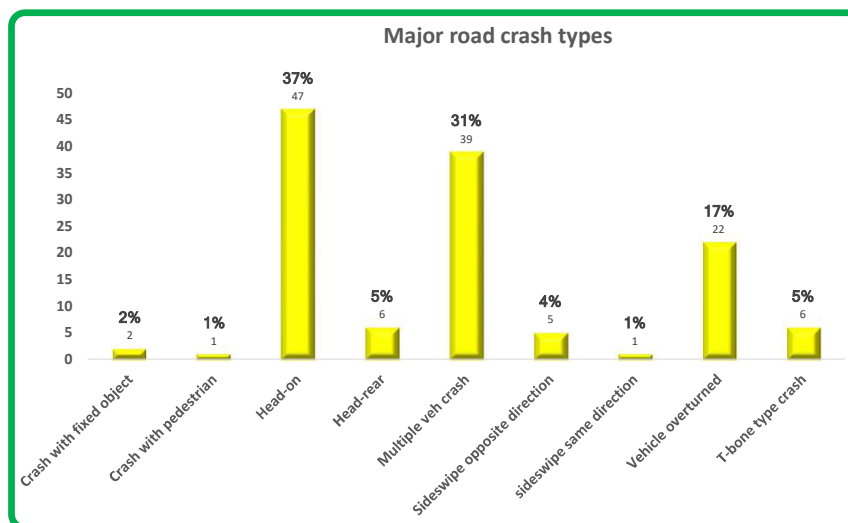
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Major road crash types

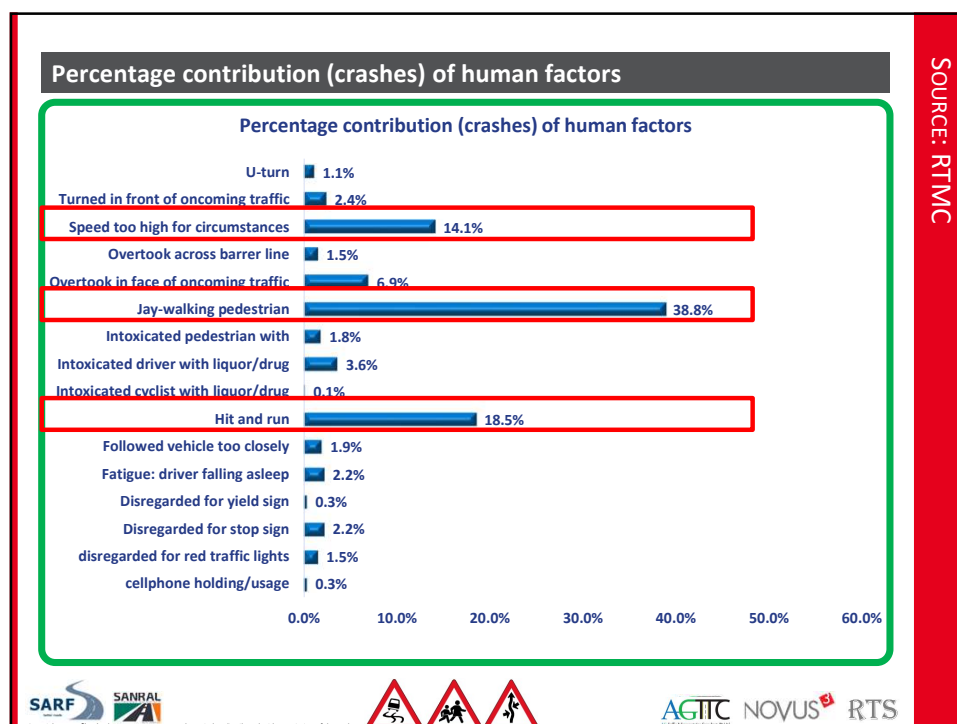
SOURCE: RTMC



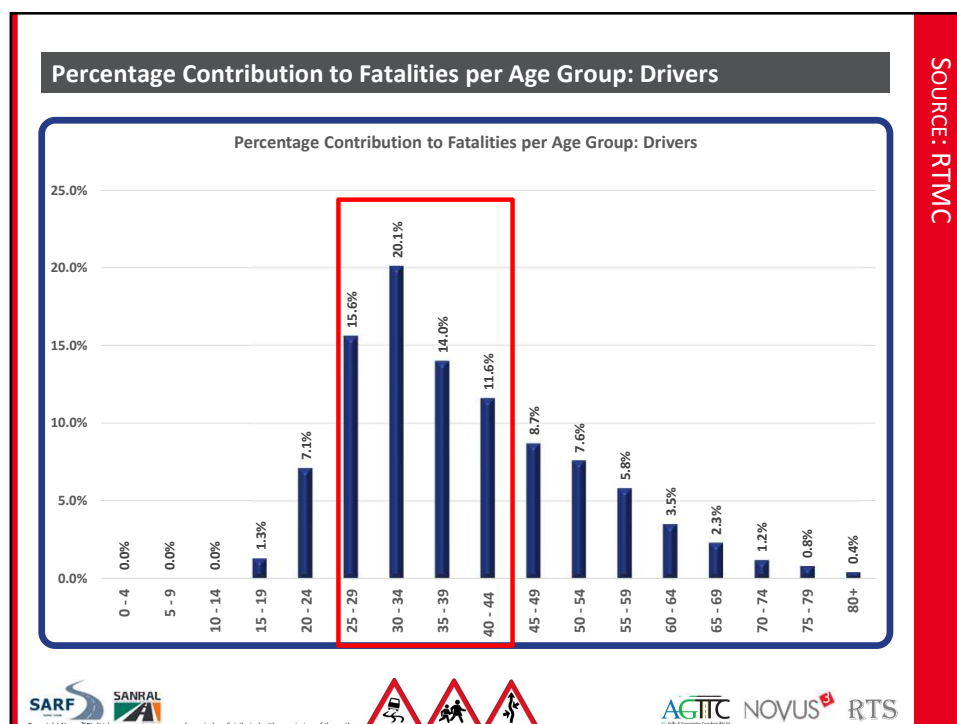
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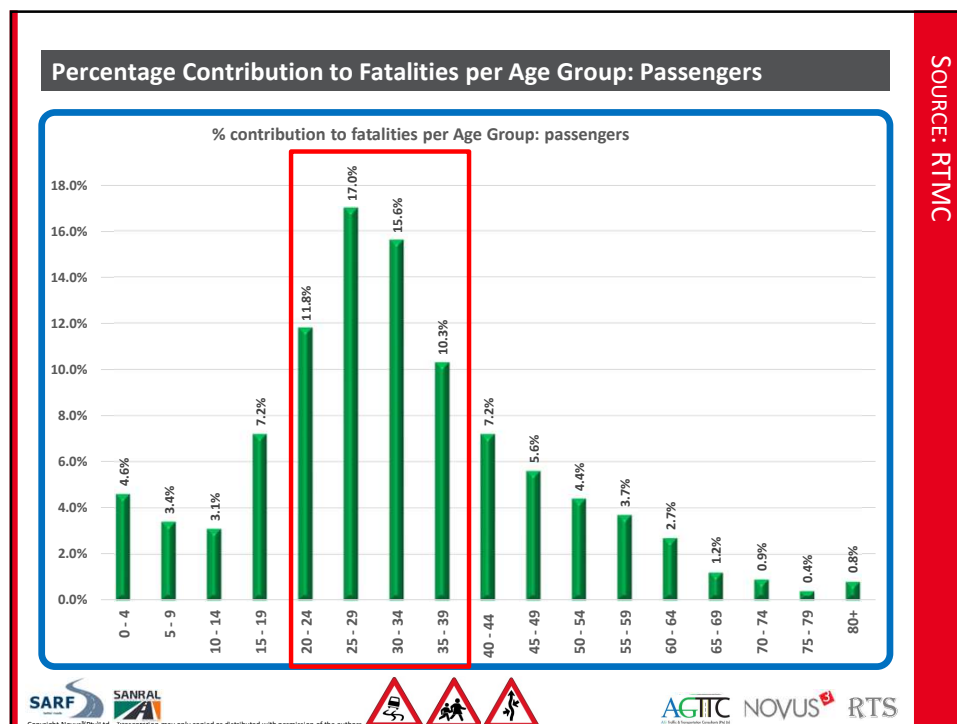
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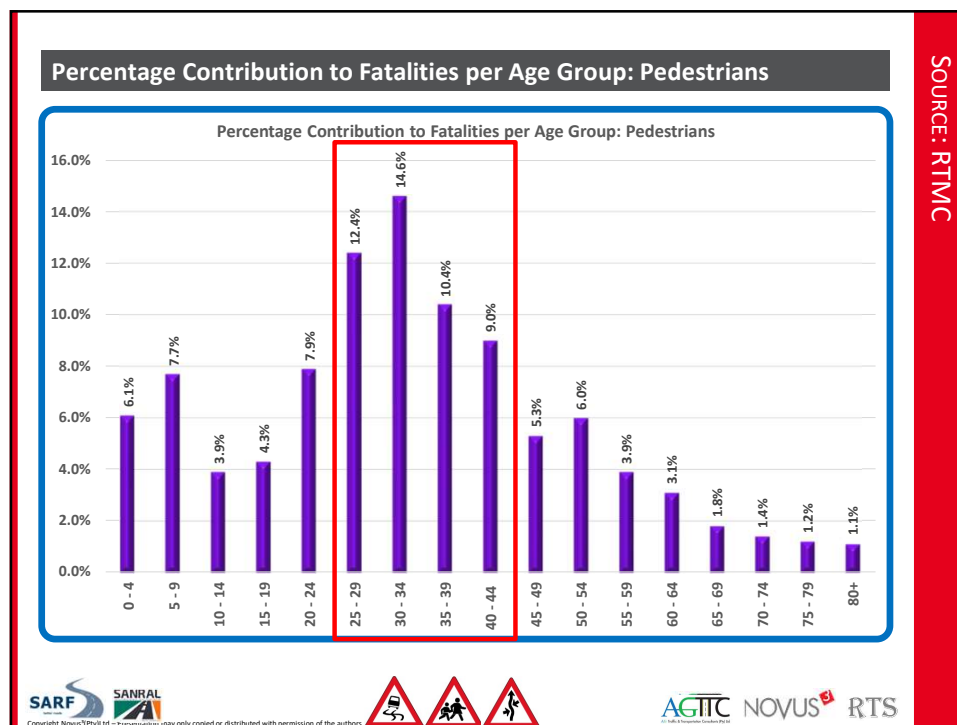
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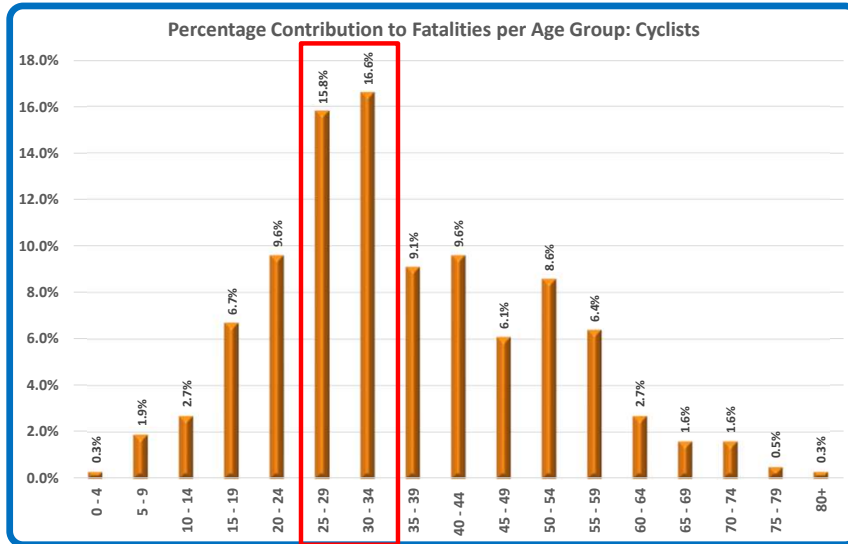


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Percentage Contribution to Fatalities per Age Group: Cyclists



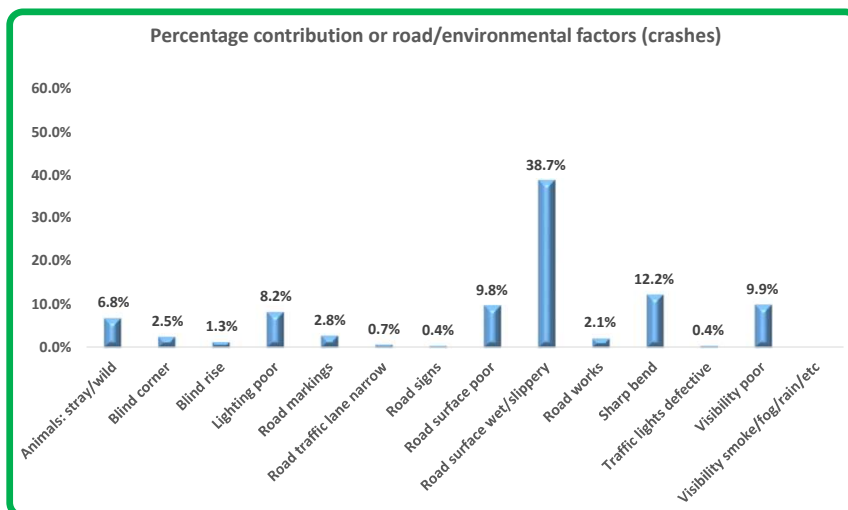
SOURCE: RTMC



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Percentage contribution or road/environmental factors (crashes)



SOURCE: RTMC

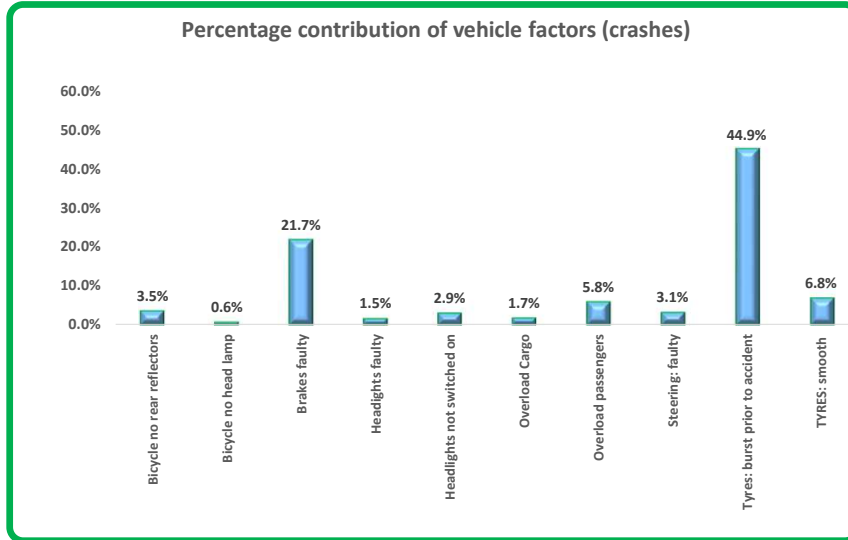


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Percentage contribution of vehicle factors (crashes)

SOURCE: RTMC



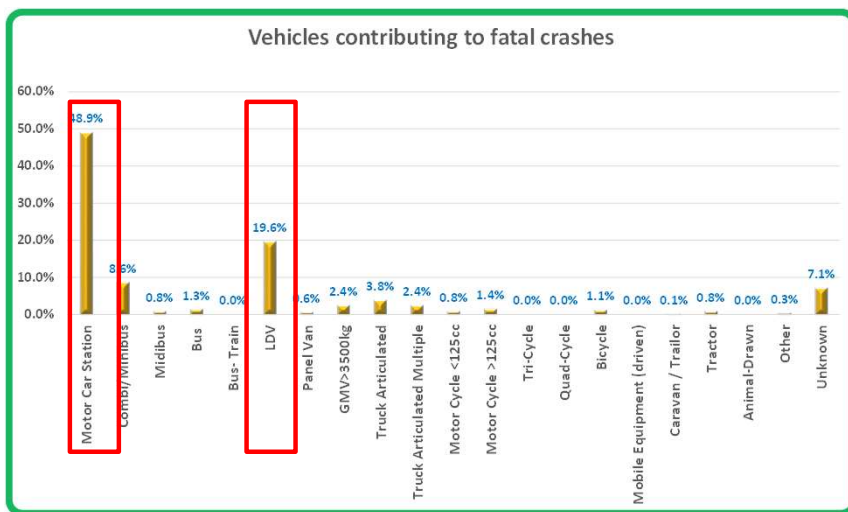
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Vehicles contributing to fatal crashes

SOURCE: RTMC

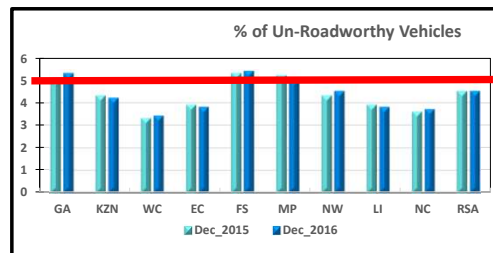
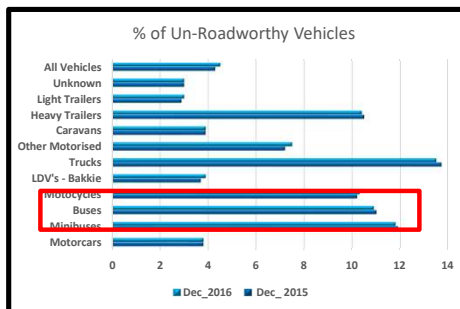


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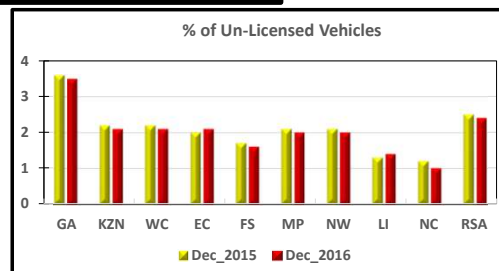
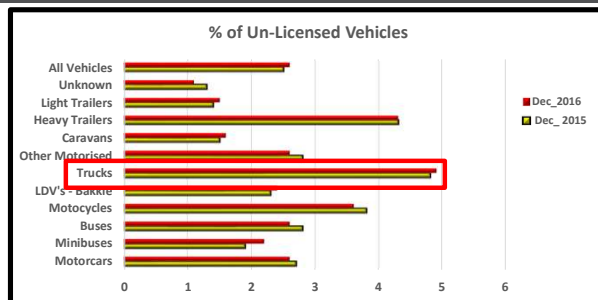
Percentage of Un-Roadworthy vehicles: South Africa



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Percentage of Un-Licensed Vehicles: South Africa



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Total Cost of Road Traffic Crashes

SOURCE: CSIR

Cost Category	Total Cost of RTCs (R million)					
	Fatal	Major	Minor	Damage only	Total	%
Human Casualty Costs	58 332	24 794	14 546	1 358	99 030	69.3
Vehicle Repair Costs	218	809	2 902	17 395	21 326	14.9
Incident Costs	2 018	5 113	2 740	12 723	22 595	15.8
Total Cost	60 569	30 716	20 189	31 477	142 951	

Unit Costs

SOURCE: CSIR

Unit Cost per RTC (Rand)				
Fatal	Major	Minor	Damage only	Any severity
5 435 261	765 664	152 244	48 533	171 727
Unit Cost per RTI (Rand)				
Death	Serious	Slight	No injury	
3 916 187	423 858	71 352	1 085	



END OF LECTURE 2

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