Road Traffic
Management Corporation

MINIMUM VEHICLE STANDARDS IN SOUTH AFRICA

FACILITATOR: NJ JOLINGANA
EXECUTIVE: NATIONAL TRAFFIC LAW ENFORCEMENT

Introduction

- For about 5 years now, SA touts a daily death toll of 44 people and 33 injuries daily
- This is in the face of 170 collisions accounted for the period 27 April (freedom day) and 1st May (workers day).
- For the said period, this current year (2016), in 5days, South Africa experienced about 35 road crashes.
- Often times these would involve a taxi (with a minimum of 15 people at a time) and a truck (most likely to impact on other vehicles because of its size).
- My daily report: Major crash occurred on Sunday 25/09/16 around 23:53 on the N1 Richmond (Northern Cape). 1 Truck and 1 Avanza were involved. 6 people were killed in this crash…..

Norms and Standards session

- Does the math about 40 people dying daily on roads still add up?
- My point is- do we have our finger on the pulse when it comes to the number of deaths? Number of collisions? Number of injuries that occur on our roads daily?
- For me, norms and standards to give impetus to the enforcement and management of the country's Road Traffic Law Enforcement require us to resolve the conundrum around the management of road crashes in order for us to make relevant interventions in the form of norms and standards

About this session…..

- Introduction to minimum vehicle standards
- Look at the South African “entry –level” vehicle safety report
- Minimum standards for light motor vehicles
- Minimum standards: heavy vehicles
- Minimum standards : busses
- Minimum standards : motor cycles
- Discussions and closure of Day 1.

transport

Department:
Transport
REPUBLIC OF SOUTH AFRICA

Introduction to vehicle standards and testing

Presented at the Vehicle Standards & Systems Summit towards Safe Roads in South Africa
26-27 September 2016

DEPARTMENT OF TRANSPORT

- **Branch: Roads**
  - Chief Directorate: Road Regulation
    - Directorate: Traffic Legislation and Standards
      - National Road Traffic Act, Act no 93 of 1996 and Regulations
      - Standards referred to in the NRTA
    - Directorate: Compliance
      - Inspectorate for Manufacturers Importers and Builders
      - Inspectorate for Vehicle Testing Stations

Manufacturers Importers and Builders

- National Road Traffic Act, Act 93 of 1996
  - Registration of MIBs Regulations 38 to 51
  - Regulation 44: Powers and duties of the Inspectorate for manufacturers Importers and Builders
- The National Regulator for Compulsory Specifications (NRCS) is the current Inspectorate for MIBs
  - Applicable standards

Vehicle Testing

- National Road Traffic Act, Act 93 of 1996
  - Regulation 137E Powers and duties of the Inspectorate of Testing Stations
- South African Bureau of Standards (SABS)
  - Applicable Standards:
    - SANS 10047 – Testing of vehicles for Roadworthiness
    - SANS 10216 – Requirements for Vehicle Test Station Evaluation
    - ARP 018 – Vehicle Examiners Handbook

Thank you

South African ‘entry-level’ vehicle safety report

Prepared by the Automobile Association of SA

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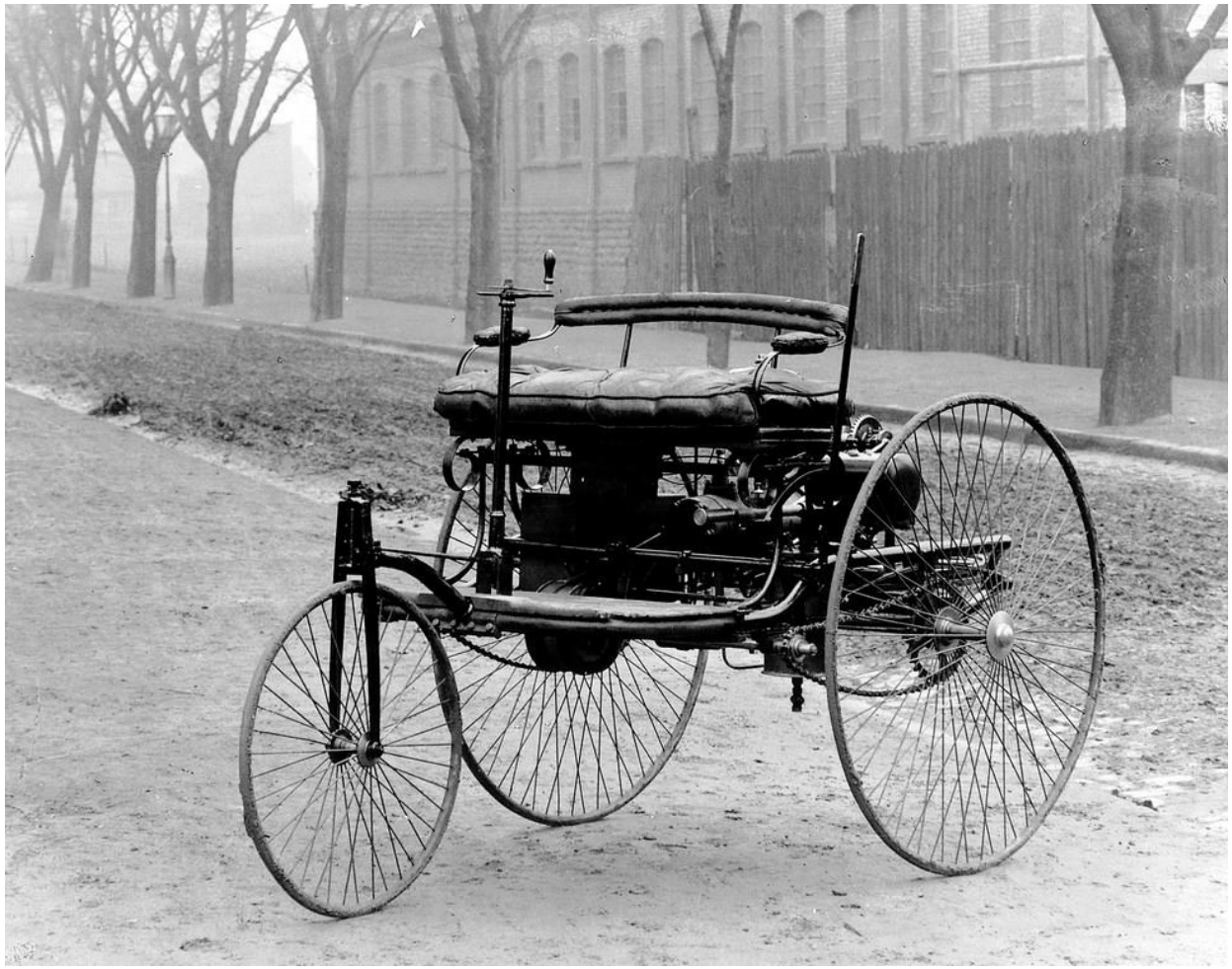
Introduction

Introduction: Evolution of Safety



1885 Benz Patent Motorwagen

Introduction: Evolution of Safety

Locomotive Act (1865) - required self-propelled vehicles on public roads in the United Kingdom to be preceded by a man on foot waving a red flag and blowing a horn.

Early incidents:

- **Mary Ward - died from being thrown out of 'car'. (1869)**
- **James Lambert - hit a tree root lost control of car injured but not fatal. (1861)**
- **Bridget Driscol - first pedestrian killed by a car in London. (1896)**
- **Henry Lindfield - First fatality due to collision. (1898)**

'Unsafe at any speeds' - Ralph Nader (1965)

1979 Creation of the first New Car Assessment Programme by the US National Highway Traffic Safety Administration (NHTSA).

Introduction: South African context

- South Africa has one of the highest per capita road fatalities statistics in the world
- Between 2011 to 2016 South African motor vehicle population increased by around 2 million vehicles (All classes)
- Current South African vehicle numbers stands at 11 897 737
- Road Traffic Management Corporation (RTMC): 12 944 people died on South African roads in 2015.
- Where do we start in reducing crashes and fatalities?

Basic safety features

Basic safety features

Basic safety features

1. *Anti-lock braking system (ABS)*:

Prevent the wheels from locking up when the driver applies the brakes, enabling the driver to steer while braking.

2. Electronic stability control (ESC): -

Detects if the steering inputs of the driver are inconsistent with the vehicles direction of travel, applies the relevant brakes to prevent the wheels from slipping, keeping the vehicle under control and on the road in hazardous conditions.

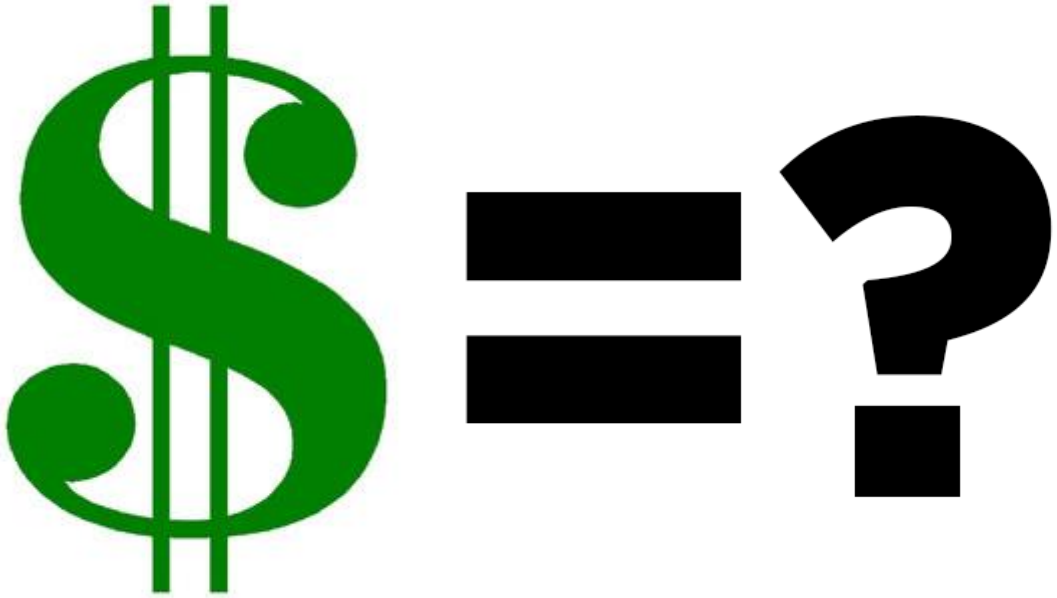
(ABS+ESC combined = reduction of 6 200 fatalities*)

Basic safety features

3. Secondary/supplementary restraint system (SRS) or more commonly known as air bags - which provide a cushion upon impact to protect the driver and passengers during a crash.

Airbags are estimated to have saved 123,000 Lives saved to date*

HOW MUCH DO THESE SAFETY FEATURES COST?



Cost of safety features

Cost estimates provided by ‘Global NCAP: Road map for safer cars’

$200.00

$120.00

$320.00

Report research methodology

Research Methodology: Current report

- **Two key factors stand out which are pertinent for consideration when decisions arise regarding the purchasing of a motor vehicle:**

Safety AND Affordability

- **To this end, a threshold of R150 000 was set as a benchmark to determine vehicles for evaluation, this being a value that the Automobile Association (AA) considered to be 'entry-level'.**

Types of drivers

These motor vehicles are marketed towards 3 categories of buyers:

1. **Young adult drivers**
2. **Lower income drivers**

New Market Entrants:
Limited Driving Experience

3. **Ageing drivers**

Buying down:
Age related risks

Research Methodology: Assessment criteria

Presence of:

ABS **-**

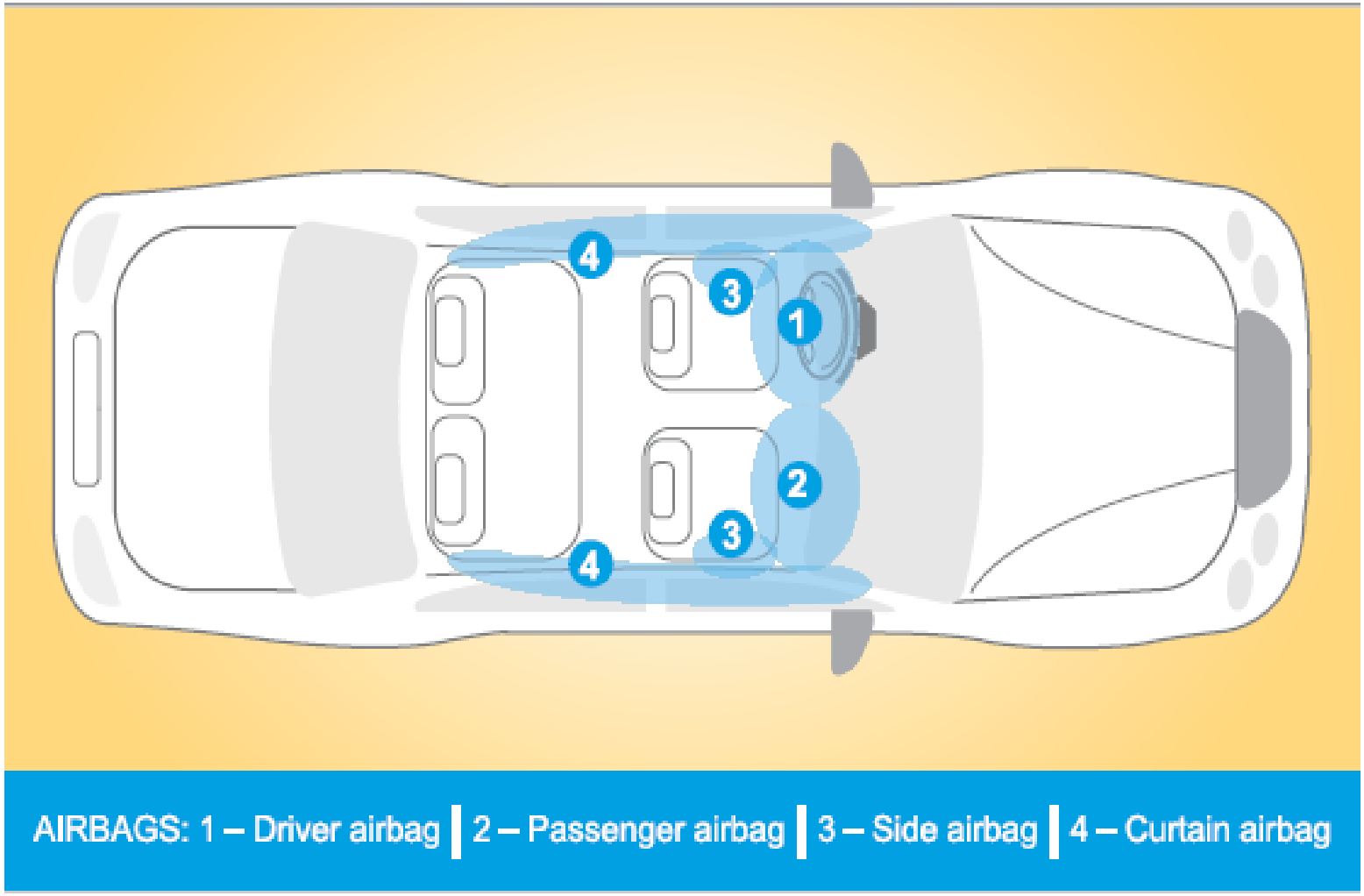
ESC **-**

SRS Airbags **-**

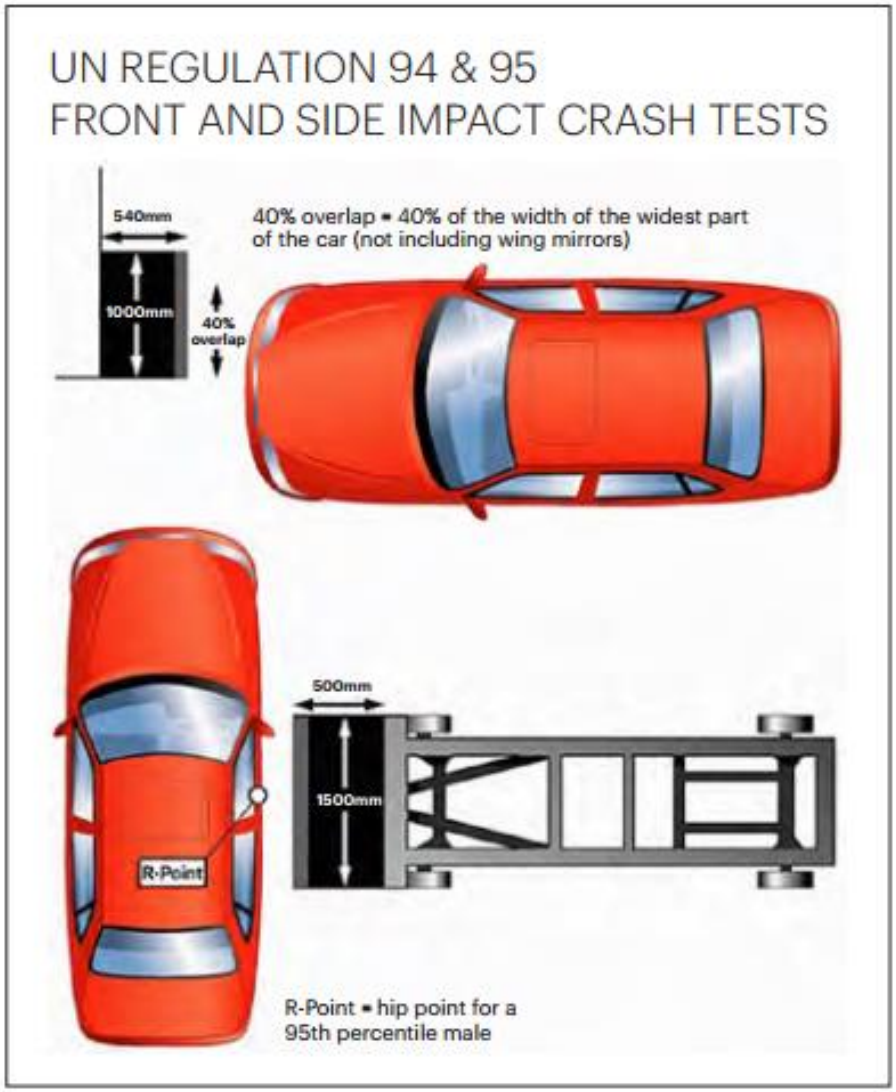
Airbags further divided into:

Driver side airbags
Passenger side airbags
Curtain airbags
Side airbags

Research Methodology: Location of Airbags

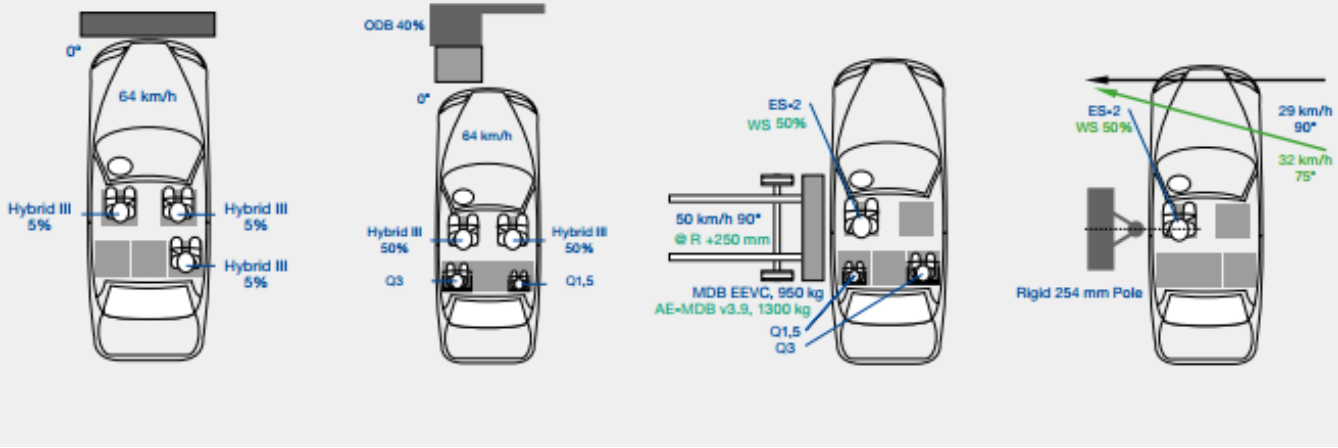


Research Methodology: UN regulation crash testing

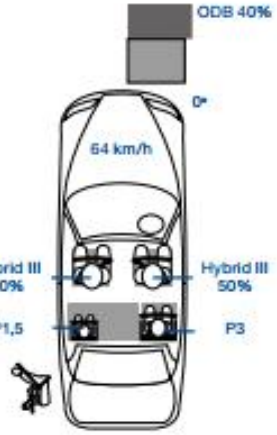


Research Methodology: NCAP testing

EURO NCAP



ASEAN NCAP



Findings: Safety Scoring

Active safety (crash prevention)	Maximum Score	Comments
Anti-lock brakes (ABS)	30	Present – full score. Absent – no score
Electronic Stability Control	30	Present – full score. Absent – no score
Passive safety (crash protection)	Maximum Score	Comments
Driver's airbag	10	Present – full score. Absent – no score
Front passenger airbag	10	Present – full score. Absent – no score
Side airbags	10	Present – full score. Absent – no score
Head / curtain airbags	20	Present – full score. Absent – no score
Crash test rating (frontal impact)	25	Pro-rata – five points per star. Must be for equivalent spec vehicle rated under current (post-2009) Euro NCAP or Global NCAP.
Total points achievable	135	Perfect score

Findings

Findings: Sample of motor vehicles

Make and Model	Price
Chery J2 1.5TX	R149,995
Citroen C1 Vti 51kW Feel	R149,900
Chevrolet Spark 1.2L	R149,000
Honda Brio Hatch 1.2 Trend	R148,600
Mitsubishi Mirage 1.2 GL	R148,400
Renault Sandero 66kW turbo Expression (excl A/C)	R147,900
Suzuki Celerio 1.0 GL	R146,500
Suzuki Swift Hatch 1.2 GA	R145,500
Kia Picanto 1.2 LS	R139,995
Chevrolet Spark 1.2 Campus	R137,400
Tata Vista Ini Bounce	R134,995
Kia Picanto 1.0 LS	R129,995
Suzuki Celerio 1.0 GA	R129,900

Make and Model	Price
FAW V2 1.3 #Like	R124,995
Tata Indica LGI Sport	R123,995
Datsun GO 1.2 LUX	R119,900
Tata Indica LE AC	R118,995
FAW V2 1.3 DLX	R114,995
Chery QQ 1.1 TXE	R114,995
Chery QQ 0.8TX	R104,995
Datsun Go 1.2 Mid	R104,900
Chery QQ3 0.8 TE	R99,995
Geely GC2	R92,990

Total = 23

Findings: Safety/Affordability index

$$\frac{Overall\ Safety\ Score}{(Price\ of\ Vehicle \div R10000)} = \text{Safety/Affordability Score}$$

Example:

$$= \frac{135}{(R150000 \div R10000)}$$

$$= \frac{135}{(15)}$$

$$= 9.0 \quad \text{(Safety/Affordability score)}$$

Index allows us to draw a comparison of basic safety features on a vehicle for every R10 000 spent

Findings: overall results

Make and Model	Price	Total	ABS	ESC	Driver's airbag	Front pass airbag	Side airbags	Curtain airbags	Euro NCAP	Safety per R10k
Maximum achievable	R150,000	135	30	30	10	10	10	20	25	9.00
Citroen C1 Vti 51kW Feel	R149,900	130	30	30	10	10	10	20	20	8.67
Renault Sandero Expression	R147,900	80	30	30	10	10	0	0	0	5.41
FAW V2 1.3 DLX	R114,995	50	30	0	10	10	0	0	0	4.35
FAW V2 1.3 #Like	R124,995	50	30	0	10	10	0	0	0	4.00
Suzuki Celerio 1.0 GA	R129,900	50	30	0	10	10	0	0	0	3.85
Chevrolet Spark 1.2 Campus	R137,400	50	30	0	10	10	0	0	0	3.64
Suzuki Swift Hatch 1.2 GA	R145,500	50	30	0	10	10	0	0	0	3.44
Suzuki Celerio 1.0 GL	R146,500	50	30	0	10	10	0	0	0	3.41
Mitsubishi Mirage 1.2 GL	R148,400	50	30	0	10	10	0	0	0	3.37
Honda Brio Hatch 1.2 Trend	R148,600	50	30	0	10	10	0	0	0	3.36
Chevrolet Spark 1.2L	R149,000	50	30	0	10	10	0	0	0	3.36
Chery J2 1.5TX	R149,995	50	30	0	10	10	0	0	0	3.33
Chery QQ 1.1 TXE	R114,995	20	0	0	10	10	0	0	0	1.74
Datsun GO 1.2 LUX	R119,900	10	0	0	10	0	0	0	0	0.83
Kia Picanto 1.0 LS	R129,995	10	0	0	10	0	0	0	0	0.77
Kia Picanto 1.2 LS	R139,995	10	0	0	10	0	0	0	0	0.71
Geely GC2	R 92,990	0	0	0	0	0	0	0	0	0.00
Chery QQ3 0.8 TE	R 99,995	0	0	0	0	0	0	0	0	0.00
Datsun Go 1.2 Mid	R104,900	0	0	0	0	0	0	0	0	0.00
Chery QQ 0.8TX	R104,995	0	0	0	0	0	0	0	0	0.00
Tata Indica LE AC	R118,995	0	0	0	0	0	0	0	0	0.00
Tata Indica LGI Sport	R123,995	0	0	0	0	0	0	0	0	0.00
Tata Vista Ini Bounce	R134,995	0	0	0	0	0	0	0	0	0.00

Discussion

Findings: Key findings

- The Citroën C1, had all safety features installed as standard. The only loss of points incurred was due to the C1 only being granted four out of five stars on the Euro NCAP crash test.

- Six of the 23 vehicles under consideration had none of the identified safety features installed

- Vehicles are fitted with numerous items of equipment which may be regarded as 'convenience' or 'luxury' features (e.g. sounds system), even though the vehicles in question offered low levels of safety equipment.

Findings: Key findings

'Acceptable' Safety/affordability (Score ≥ 4)
Citroen C1 Vti 51kW Feel
Renault Sandero 66kW turbo Expression (excl A/C)
FAW V2 1.3 DLX
FAW V2 1.3 #Like

'Moderate' Safety/affordability (Score 3 - 3.99)
Suzuki Celerio 1.0 GA
Chevrolet Spark 1.2 Campus
Suzuki Swift Hatch 1.2 GA
Suzuki Celerio 1.0 GL
Mitsubishi Mirage 1.2 GL
Honda Brio Hatch 1.2 Trend
Chevrolet Spark 1.2L
Chery J2 1.5TX

'Poor' Safety/affordability (Score ≤ 2.99)
Chery QQ 1.1 TXE
Datsun GO 1.2 LUX
Kia Picanto 1.0 LS
Kia Picanto 1.2 LS
Geely GC2
Chery QQ3 0.8 TE
Datsun Go 1.2 Mid
Chery QQ 0.8TX
Tata Indica LE AC
Tata Indica LGI Sport
Tata Vista Ini Bounce

Way Forward

Way forward : What we would like to see

Stricter regulation for minimum vehicle safety specifications

Can it be done?

We already have standardized emission testing legislation

- *Informs Consumers*
- *Vehicles not meeting minimum standards are taxed on sale*

In short:

Consumers should expect the same from their vehicle safety

- *Standard safety testing for every car on sale in SA*
- *Zero star cars kept off the market*
- *Low rated vehicles taxed to incentivize minimum acceptable standards*

Safer Cars Save Lives

End Result

Informed and fair consumer decision making

Safer cars on our roads

Less lives lost

Thank you

Questions?

Contact info:

Andley Wu
Email: Andley.wu@aasa.co.za
Phone: 011 799 1083

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