TOTAL QUALITY MANAGEMENT SYSTEM FOR VEHICLE TESTING STATIONS (VTS'S) IN THE WESTERN CAPE

Presentation at the CITA Conference 2013

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South Africa

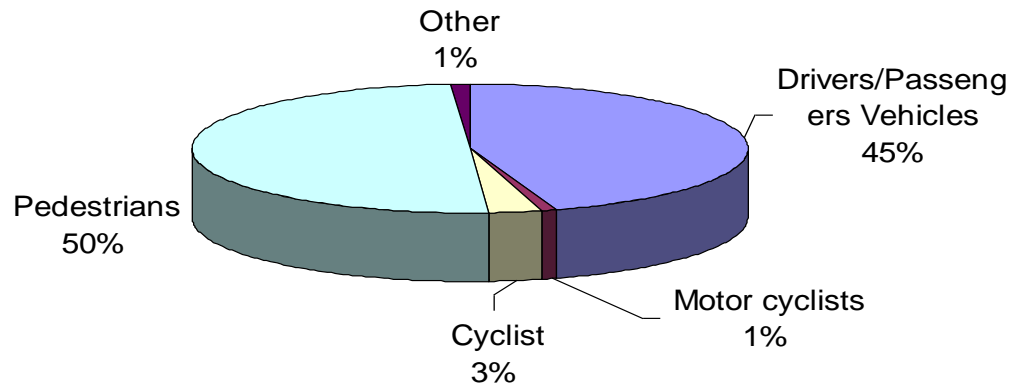| Province	Provincial capital	Largest city	Area (km²)	Population (2011)
Western Cape	**Cape Town**	**Cape Town**	**129,462**	**5,822,734**
Northern Cape	Kimberley	Kimberley	372,889	1,145,861
North West	Mahikeng	Rustenburg	104,882	3,509,953
Mpumalanga	Nelspruit	Nelspruit	76,495	4,039,939
Limpopo	Polokwane	Polokwane	125,754	5,404,868
KwaZulu-Natal	Pietermaritzburg	Durban	94,361	10,267,300
Gauteng	Johannesburg	Johannesburg	18,178	12,272,263
Free State	Bloemfontein	Bloemfontein	129,825	2,745,590
Eastern Cape	Bhisho	Port Elizabeth	168,966	6,562,053

South Africa's Road Safety Challenges

South Africa 2011/12

- 13 932 Fatalities (RTMC)
  - Drivers: 3 763
  - Passengers: 4 458
  - Pedestrians: 5 154
  - Cyclists: 557

Passengers 32%
Drivers 27%
Pedestrians 37% / Cyclist 4%
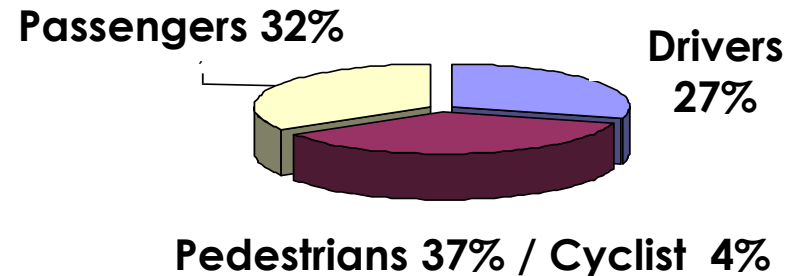
SADC Region : +/- 63 000 Road Crash Fatalities per year

Other 1%
Drivers/Passengers Vehicles 45%
Pedestrians 50%
Cyclist 3%
Motor cyclists 1%

D.R. Congo
Tanzania
Seychelles
Angola
Malawi
Zambia
Mozambique
Namibia
Zimbabwe
Mauritius
Botswana
Swaziland
South Africa
Lesotho

South Africa's Road Safety Challenges
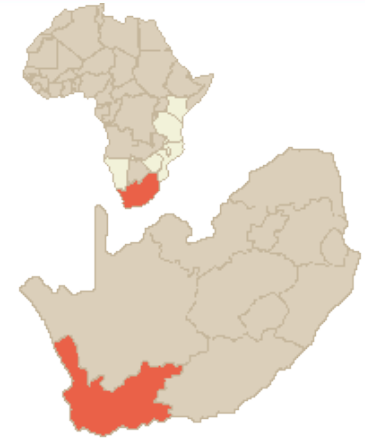

33.9 Deaths per 100,000 Population

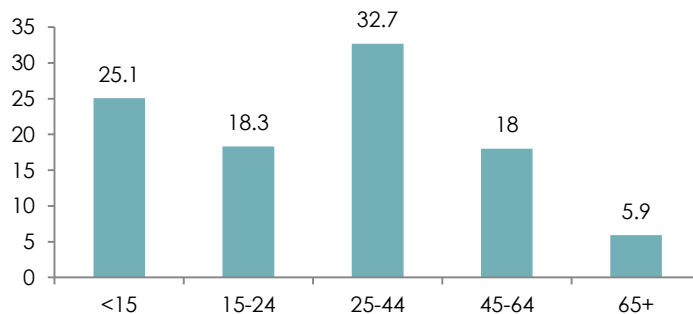**Source** : World Health Organisation
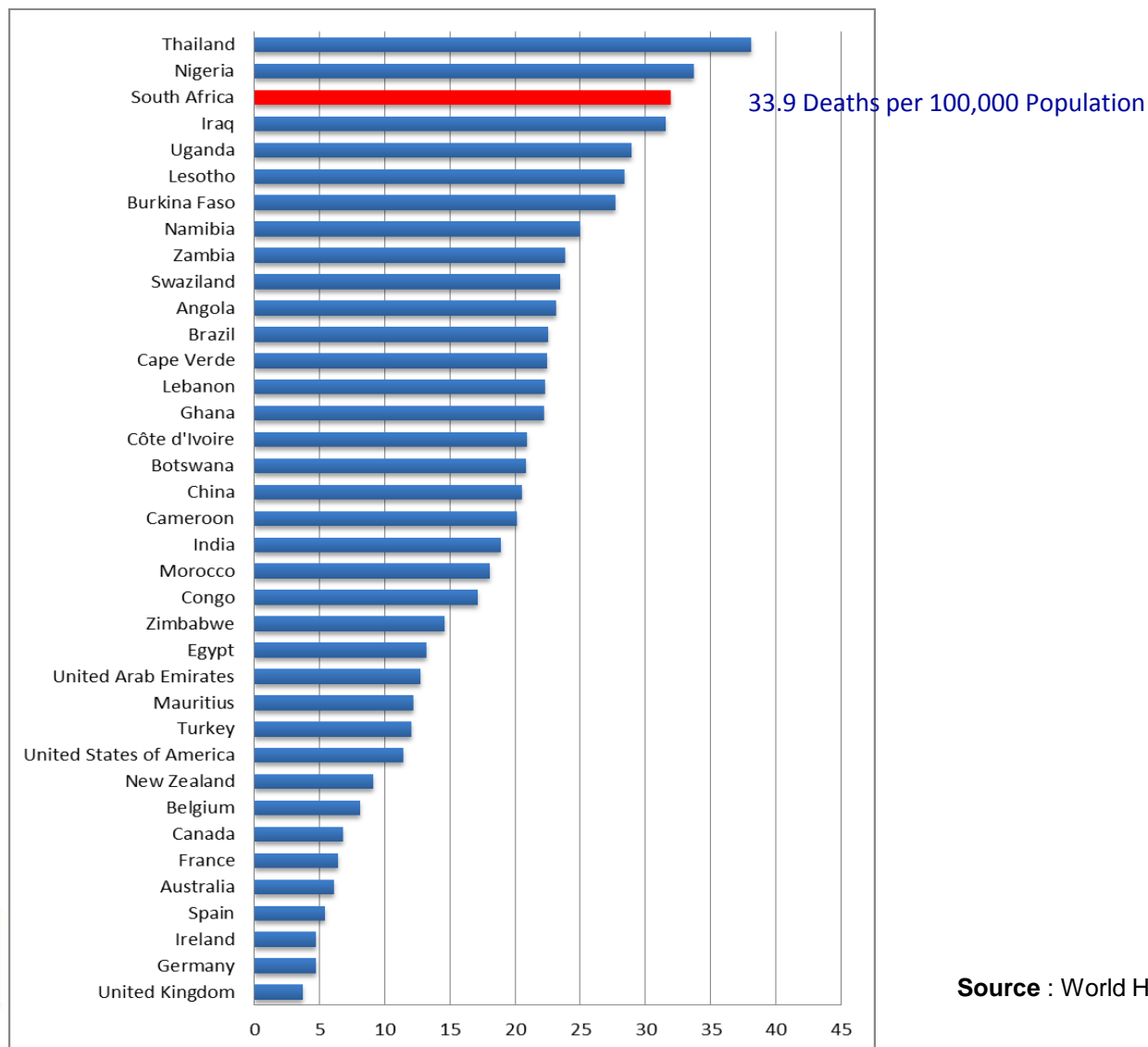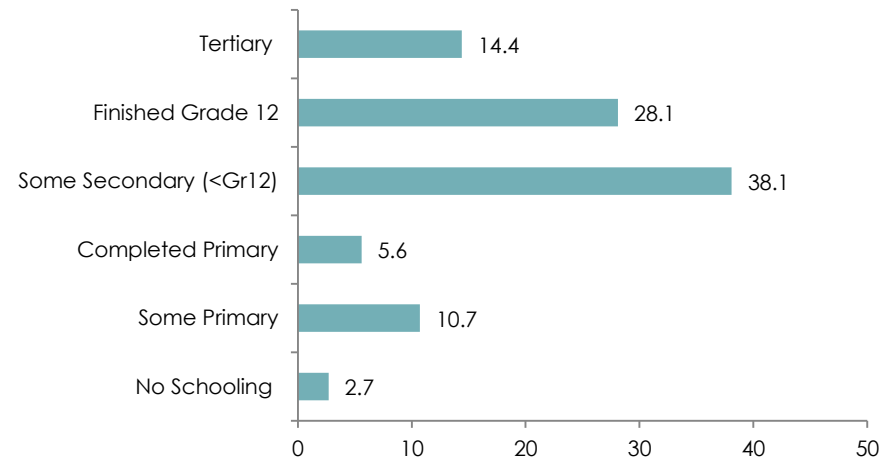
Western Cape : Quick Facts

- Population (2011) : 5,822,734
- Households (2011) : 1,634,000
- GDP : R268.26billion (14.3% of RSA)
- 69.2% of 15-64 year olds economically active
- 25.4% of 15-64 year olds unemployed
- Vehicle population (2013) : 1,727,540

Western Cape Population Age Distribution

Age	Value
<15	25.1
15-24	18.3
25-44	32.7
45-64	18
65+	5.9

Level of Education (20+ year olds)

Level	Value
Tertiary	14.4
Finished Grade 12	28.1
Some Secondary (<Gr12)	38.1
Completed Primary	5.6
Some Primary	10.7
No Schooling	2.7

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Sources : StatsSA, PERO, eNaTIS
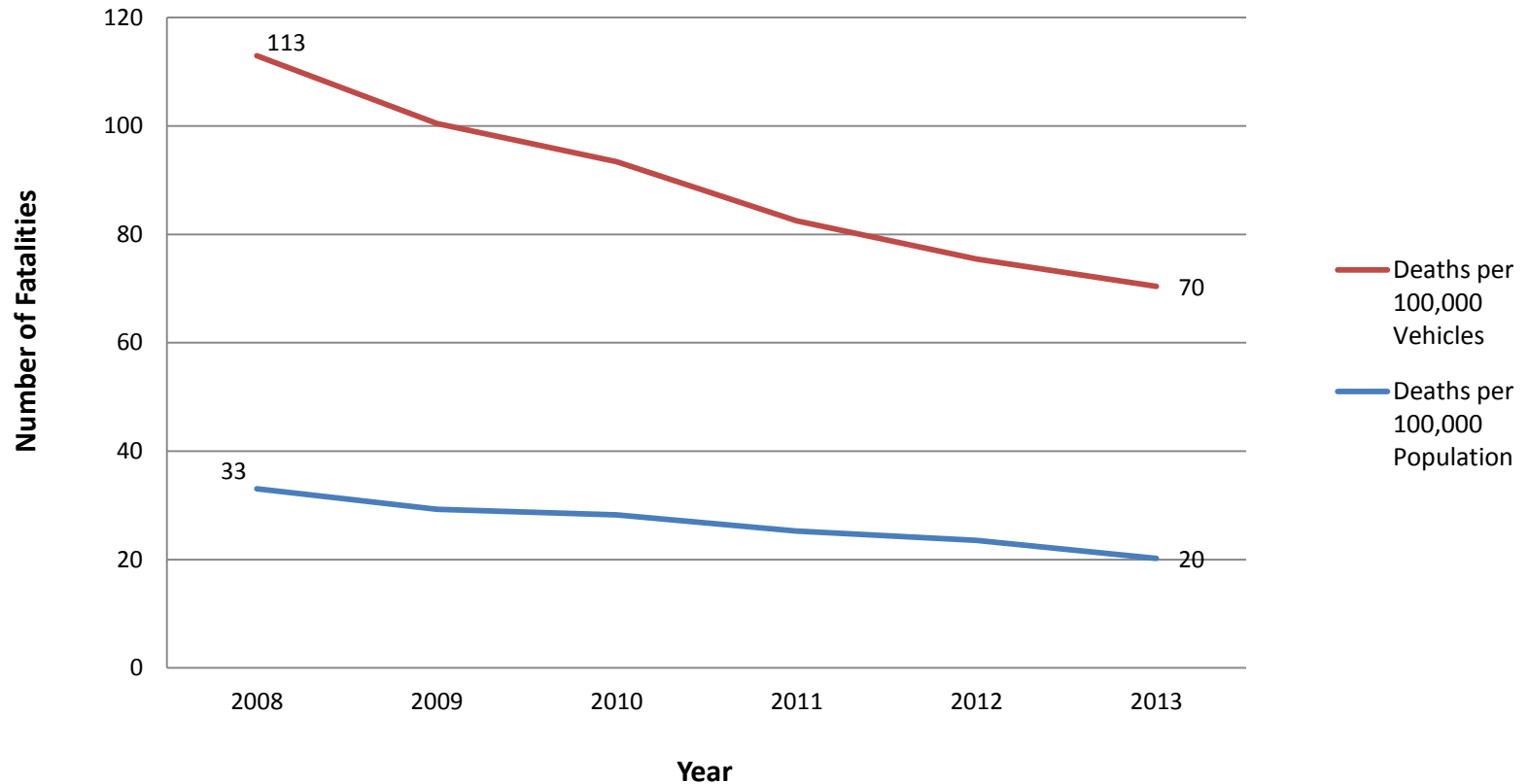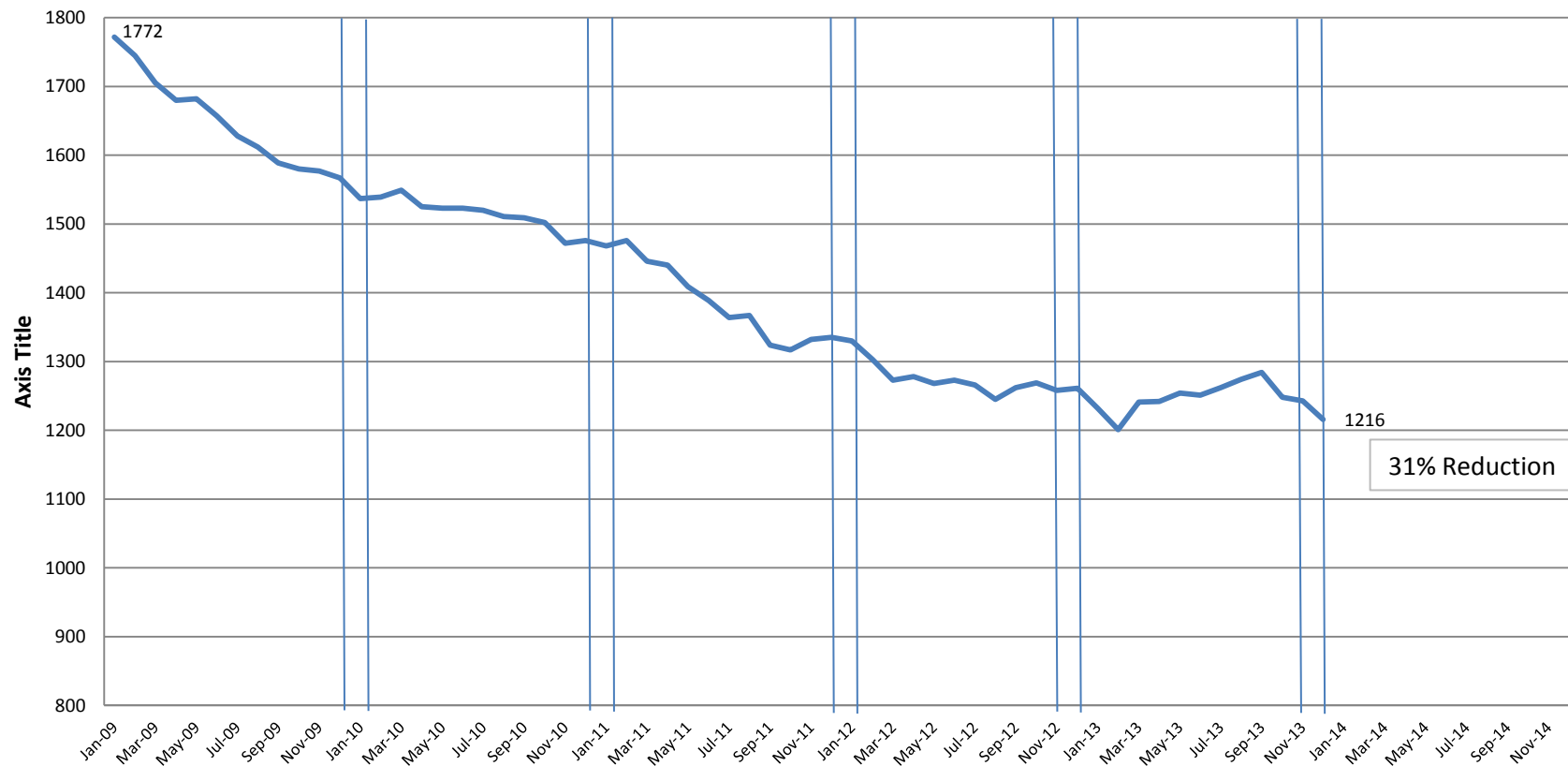
Road Fatalities per Population & Vehicles

**Western Cape Road Crash Fatalities
per Vehicle and Human Population : 2008 - 2013**
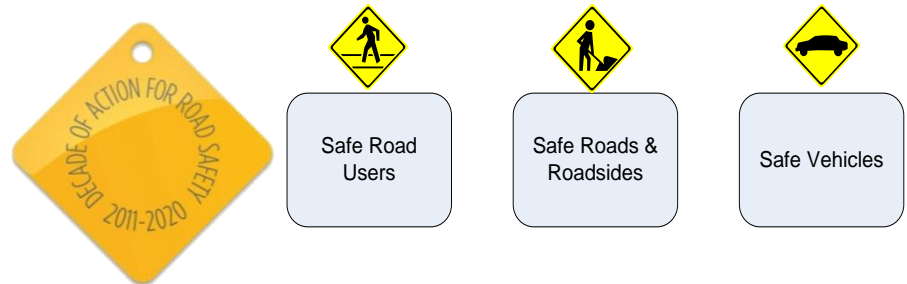
Rolling Twelve Month Cumulative Trend Line

WESTERN CAPE ROAD CRASH FATALITIES
Rolling Twelve month Cumulative Totals as at 31 December 2013

1772

1216

31% Reduction

**Source** : Western Cape Forensic Pathology Services

Approach to Road Safety

The Philosophy of the Safe Systems approach:

- Despite all efforts to prevent crashes, road users will remain fallible and crashes will occur.

- The Safe Systems approach is to ensure that in the event of a crash, the impact energies remain below the threshold likely to produce either death or serious injury.

- It stresses that those involved in the design of the road transport system need to accept and share responsibility for the safety of the system, and those that use the system need to accept responsibility for complying with the rules and constraints of the system.

- Western Cape adopting a systems approach to road safety – based on the United Nations Decade of Action pillars
    - Safe Vehicles
    - Safe Roads
    - Safe People / Road Users
    - Post Crash Response
    - Road Safety Management

Safe Road Users

Safe Roads & Roadsides

Safe Vehicles

Factors Influencing Crashes
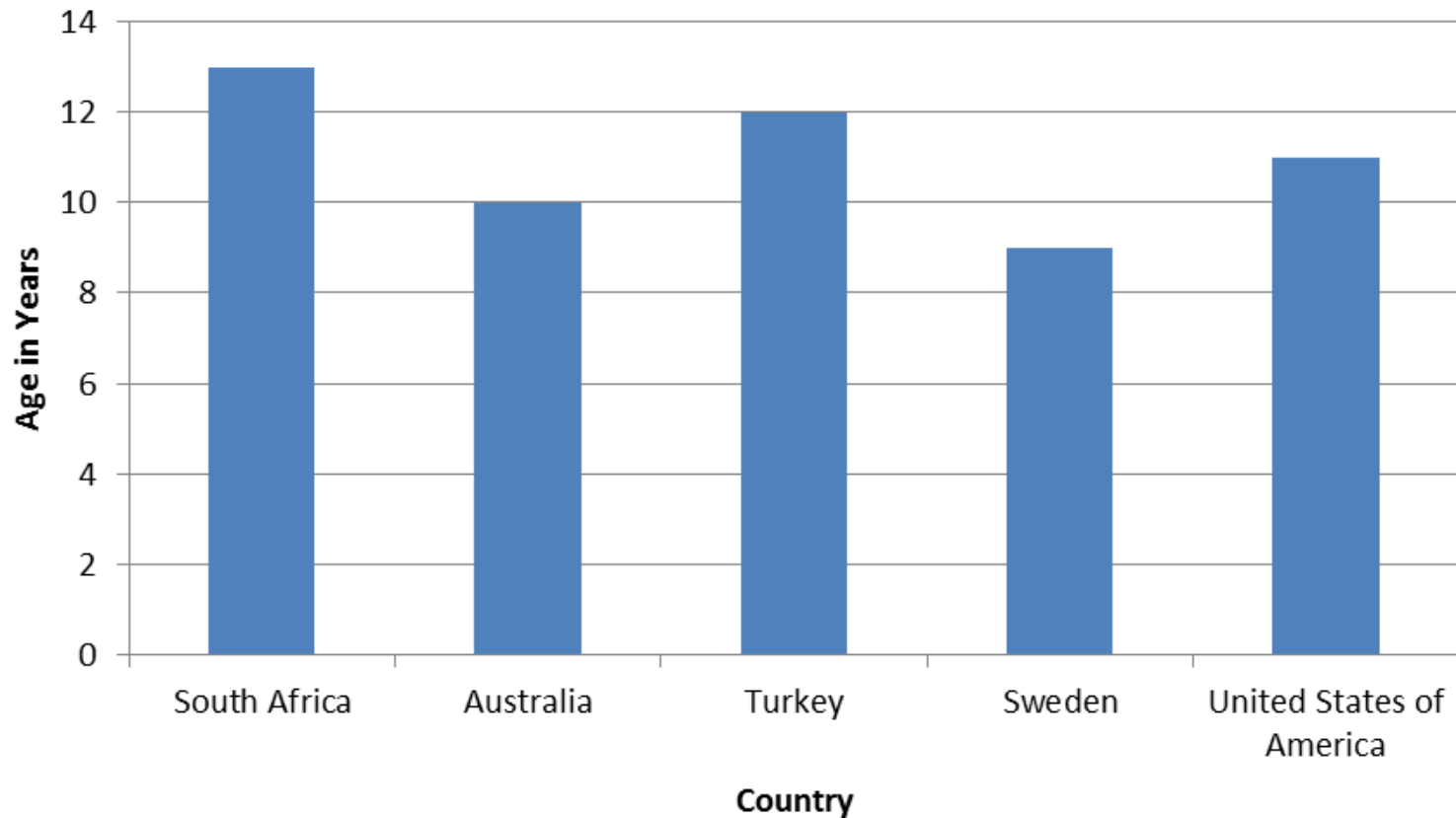
Human Factors
75-90%

Road
5-10%

Vehicle
5-20%
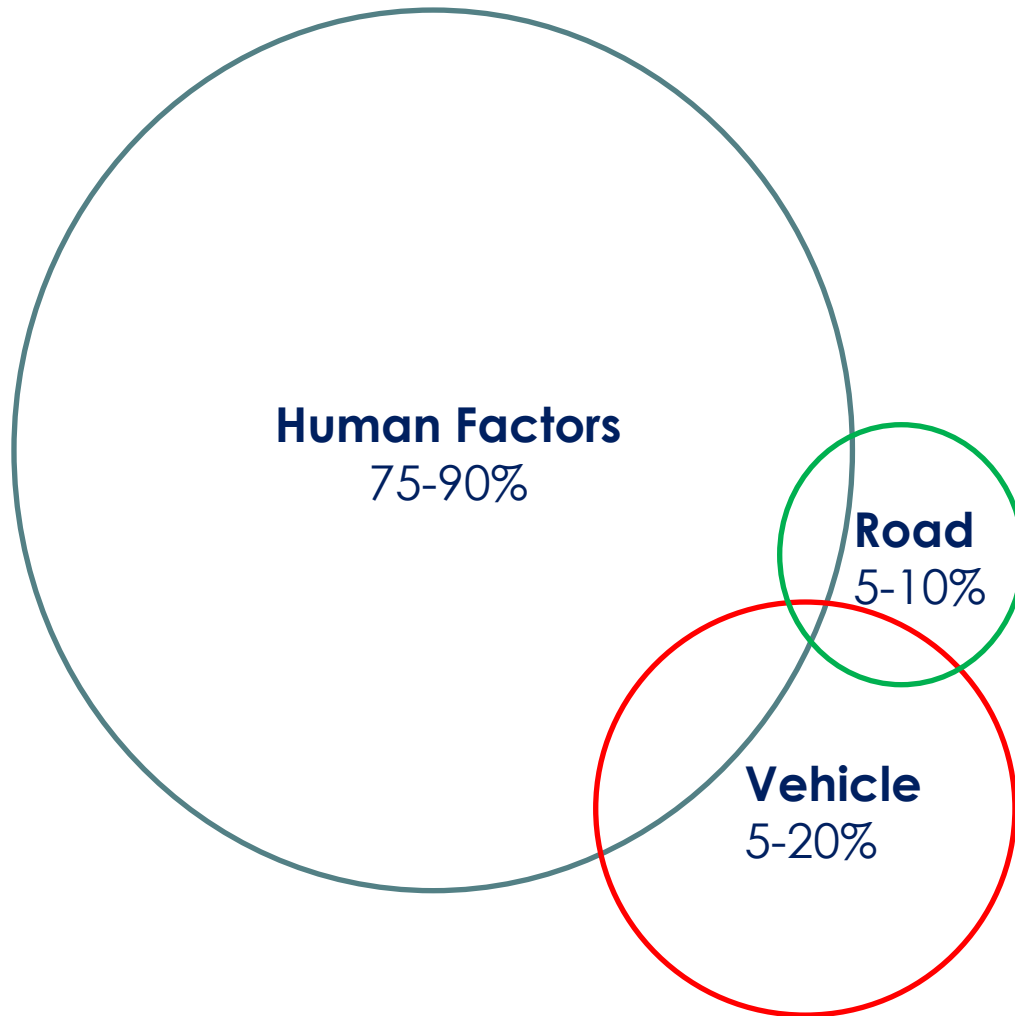
Often the factors are inter-related & more than one contributing factor exists

Factors Influencing Crashes

Factor	2009	2010	2011
Human	Speed too high for circumstances	Speed too high for circumstances	Driver failing to keep a proper lookout
	Pedestrian jaywalking	Pedestrian jaywalking	Failure to keep vehicle under control
	Hit-and-run	Hit-and-run	Overtook when unsafe
Vehicle	Tyre burst	Tyre burst	Tyre burst
	Brakes faulty	Brakes faulty	Poor vehicle maintenance
	Steering faulty	Steering faulty	Steering faulty
Road & Environment	Sharp bend	Sharp bend	Traffic light
	Poor condition of road surface	Poor condition of road surface	Poor condition of road surface
	Poor visibility	Poor visibility	Inadequate road signs

Source : RTMC

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Average Age of Vehicles

Comparitive Average Age of Vehicles

The Need for Vehicle Testing

- There is currently no requirement for all vehicles to be re-tested unless they are sold or re-registered

- 56% of vehicles in RSA are older than 10 years

Periodic Vehicle Testing

NATIONAL ROAD TRAFFIC ACT, 1996 (ACT NO. 93 OF 1996)

STAATSKOERANT, 8 JUNIE 2012   No. 35413   **3**

GENERAL NOTICE

NOTICE 458 OF 2012

DEPARTMENT OF TRANSPORT

LEGISLATION FOR COMMENTS Amendment of regulation 138 of the National Road Traffic Regulations

35.Regulation 138 of he Regulations is hereby amended by the addition of paragraph (k) after paragraph (j):

(k) motor vehicle which is 10 years and older as from 1 December 2012 calculated from the first date of registration of such motor vehicle in the Republic excluding any vintage motor vehicle: Provided that such motor vehicle will thereafter be required to be certified roadworthy after every 24 months."

TOTAL QUALITY MANAGEMENT SYSTEM FOR VEHICLE TESTING STATIONS

Vehicle Testing Stations in the Western Cape

The Western Cape currently has 90 Vehicle Testing Stations:

- Municipal VTS's = 33
- Private VTS's = 57
  - 24 = Big businesses (more than 3 VTS's run by same operator)
  - 33 = Small businesses (single operators or two or three VTS's)

- Grade A = 57
- Grade B = 33
- Total number of test pits = 107
- Total number of active Examiners of Vehicles = 246 (183 Private & 63 Municipal)

Vehicle Testing Station in the Western Cape (Metro)

Vehicle Testing Station in the Western Cape
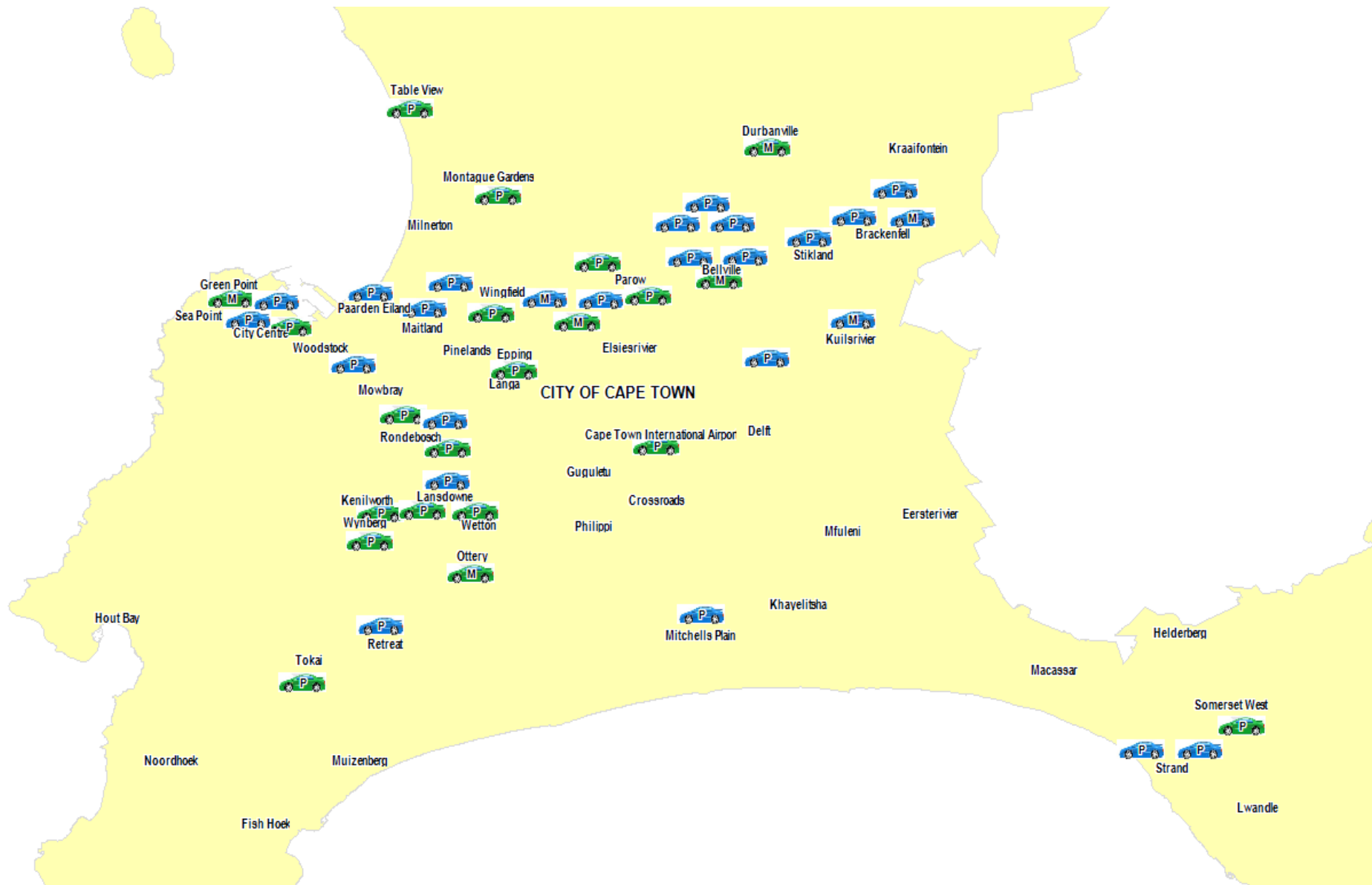
Process for Operating a Vehicle Testing Station

- In May 2009, the 15th Amendment of the National Road Traffic Regulations introduced suitability checks for the testing station and the proprietor(s)(Regulation 129)

- The 15th Amendment also made provision, through Schedule 3, for an agreement, the purpose of which "*is to formalise the relationship by and between the Department and the Testing station and to establish the terms and conditions, including any restrictions in terms of which the testing station is registered and may be operated*" (Paragraph 2.9)

Total Quality Management System (TQMS)

The Western Cape Government set out to develop a TQMS for Vehicle Testing Stations to meet the requirements of:

- The UN, National and Provincial Road Safety Strategies and Programmes,

- The National Road Traffic Act (Act 93 of 1996),

- The Quality Management System Standard; ISO 9001:2008,

- SANS 10047 standards : The Testing of Motor Vehicles for Roadworthiness

- The Evaluation of Vehicle Testing Stations; SANS 10216, (which introduces the concept of a Quality Manual ...)

Development of a TQMS

- PricewaterhouseCoopers (PwC) appointed in 2011

- The TQMS is in its final stages of review by the Department of Transport and Public Works. On completion of the review , the Department will embark on a consultation process with Vehicle Testing Station operators – including municipalities.

Cooperative Model for Safe Vehicles on Our Roads
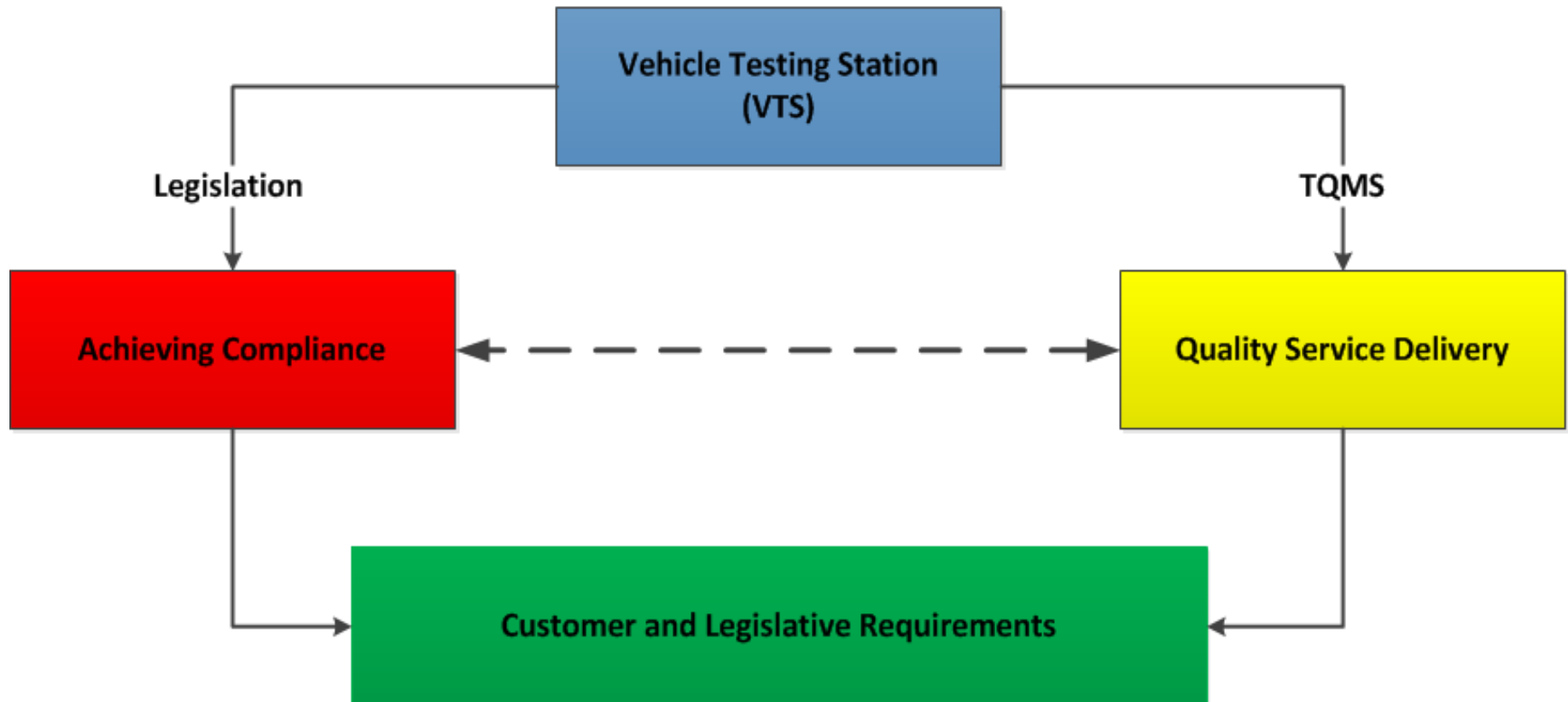
Initial Findings : Quality at Vehicle Testing Stations

Extract from PwC 2012 report (based on findings at a Municipal VTS)

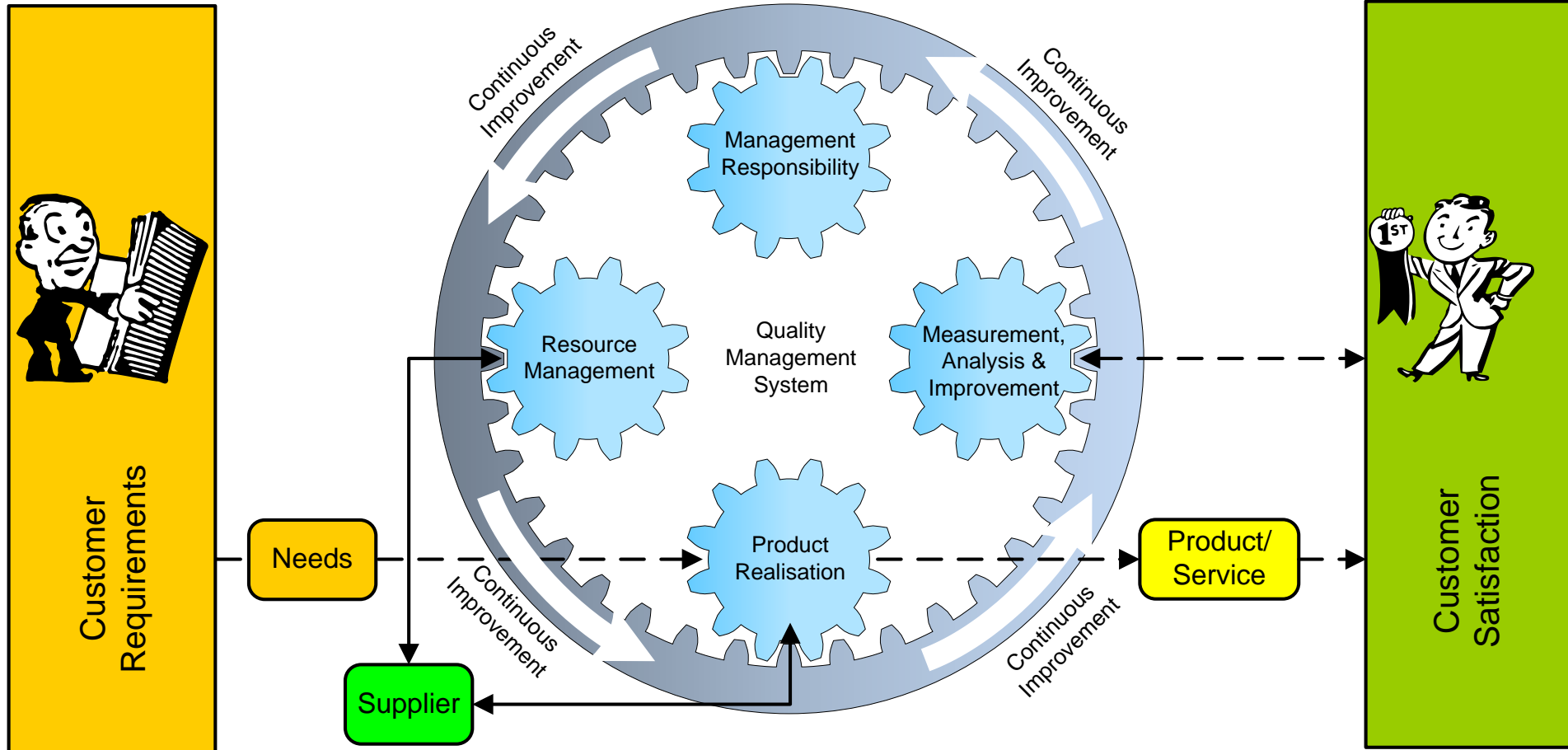|		Poor	Fair	Good	Very good	Excellent	Comments
Municipal VTS	Compliance (Administrative & Technical)		X				• A filing system for tests conducted is in place. • Policy documentation is not readily available &not publicly accessible. • Information displays and direction boards are not clearly visible.
	Equipment (Standard)	X					• Calibration certificates are in place; however the equipment has NOT been operational for three months and more. The main reasons given related to budget and procurement constraints.
	Service Delivery	X					• Lack of client information displays relating to general information & directions ito services supplied. • No customer friendly reception areas.
	Buildings and Environment			X			• Properly maintained and clean.
	Capacity (Human resources)	X					• No backup plan to replace EOV's.
	Capacity (Equipment)	X					• The equipment has <u>NOT</u> been operational for three months and longer. The main reasons given related to budget & procurement constraints.
	Quality Control		X				• There is a lack of internal quality processes. The management representative is the only official reviewing a limited number of tests of the EOV's

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Total Quality Management System

Quality Principles of a TQMS:

- Customer focus

- Leadership

- Involvement of people

- Process approach

- System's approach to management

- Continuous improvement

- Factual approach to decision making
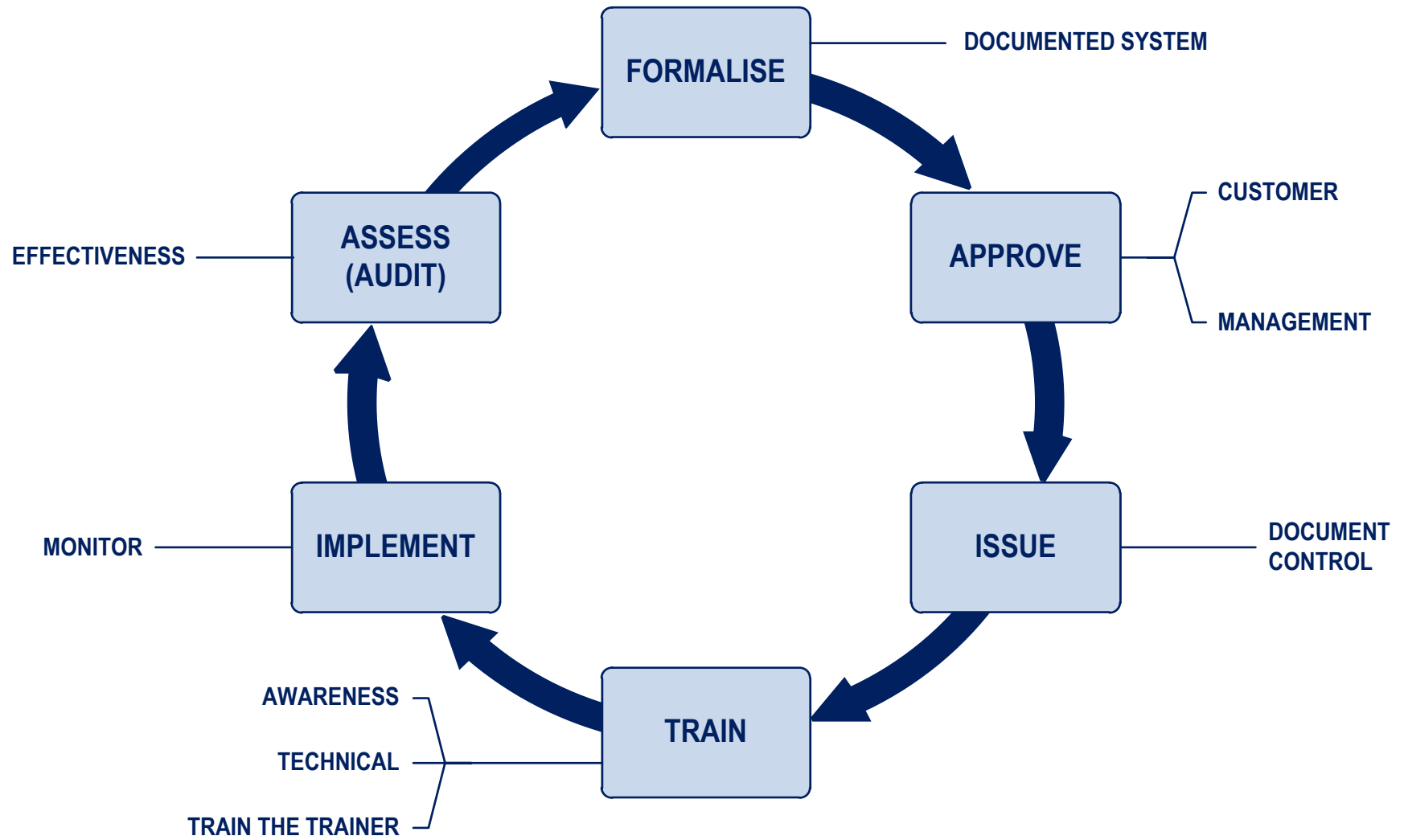
Proposed TQMS Model

Proposed TQMS Document Structure

ISO 9001:2008 & Legislative Requirements

Quality Policy & Quality Objectives

Level 1 Docs — Policy

Level 2 Docs — Procedures

Level 3 Docs — Work Instructions

Quality Manual
(Core Procedures)
1. Quality Management System
2. Management Responsibility
3. Resource Management
4. Product Realisation
5. Measurement, Analysis & Improvement

System Procedures
1. Control of Documents
2. Control of Records
3. Management Review
4. Identification & Traceability
5. Control of Monitoring & Measuring Equipment
6. Internal Quality Assessments
7. Control of Nonconforming Product
8. Corrective Action
9. Preventive Action
10. Purchasing

Business Process Plans

Department Procedures

Work Instructions

TQMS Implementation Model

Development of the TQMS

- Post implementation of the TQMS, the Vehicle Testing Station will invite a certification body of their choice to conduct a Certification Audit.

- There are various certification bodies to choose from:
    - SABS
    - TUV
    - SGS
    - BVQI
    - DNV
    - BSI

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Certification Process

- Identify, select and appoint a Certification Body in advance

- Prepare documentation for a Certification Audit

- Brief staff on behaviour and activities required

- Certification Audit has 2 stages:
  - ✓ Stage 1: Document Review and Walkabout
  - ✓ Stage 2: Audit

- Validate and respond to certification Audit findings

- Take corrective actions, follow-up and close out actions

Maintenance of the TQMS

- The maintenance of the certification status of a VTS is dependant on regular audits, amongst others

- These audits happen in three phases:

    i. Phase 1: Annual Internal Audits conducted by the VTS

    ii. Phase 2: Periodic Assessments conducted by the Provincial Department of Transport's Compliance Unit

    iii. Phase 3: Annual Surveillance Audits conducted by the appointed Certification Body

Conclusion

- 'Safe Vehicles' is a critical pillar of the Road Safety System

- The Vehicle Testing environment is set to change

- Quality Management is critical to ensure consistent and uniform standards for vehicle testing

- The Western Cape Government's TQMS for Vehicle Testing will require cooperation from all stakeholders in the environment to achieve compliance and high standards of service delivery to customers ….

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Systems Thinking Required …

Contact Us

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BETTER TOGETHER.

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