

FEEDBACK ON SECTOR ACTIVITIES



Presented by:
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SARF/CSIR



CONTENTS



- Introduction
- Politics
- Sex
- Religion
- Conclusions



CONTENTS

- Background
 - National Overload Control Strategy
 - Key problems in freight transport
- New transport legislation
- Update on the Road Transport Management System (RTMS)
- New ISO standard
- Update on PBS project
- OECD project on heavy vehicles



Infrastructure Protection

Road Safety

Fair Competition between modes & operators



Infrastructure & Equipment

- Main routes (major facilities)
- Alternative routes (minor facilities/screening)
- Monitoring (HS-WIM)
- Alternative weighing equipment
- Private weighbridges

Self-regulation

- Road Transport Management System (RTMS)
- Performance-Based Standards (PBS)

Legislation

- Consignors/Consignees
- 5% Tolerance
- User charges
- Habitual Overloaders
- Public Prosecutors
- Alternative weighing equipment
- AARTO

Information sharing & Public Awareness

- Overload website
- Overload information booklet

Operations

- Human Resources
- PPP
- Training
- Guideline document for law enforcement

Co-operation

- Provinces
- Local authorities
- Department of Justice
- Private sector

KEY ELEMENTS IN HEAVY VEHICLE ROAD TRANSPORT

- Roads (and bridges)
- Trucks (design, maintenance & operation)
- Drivers





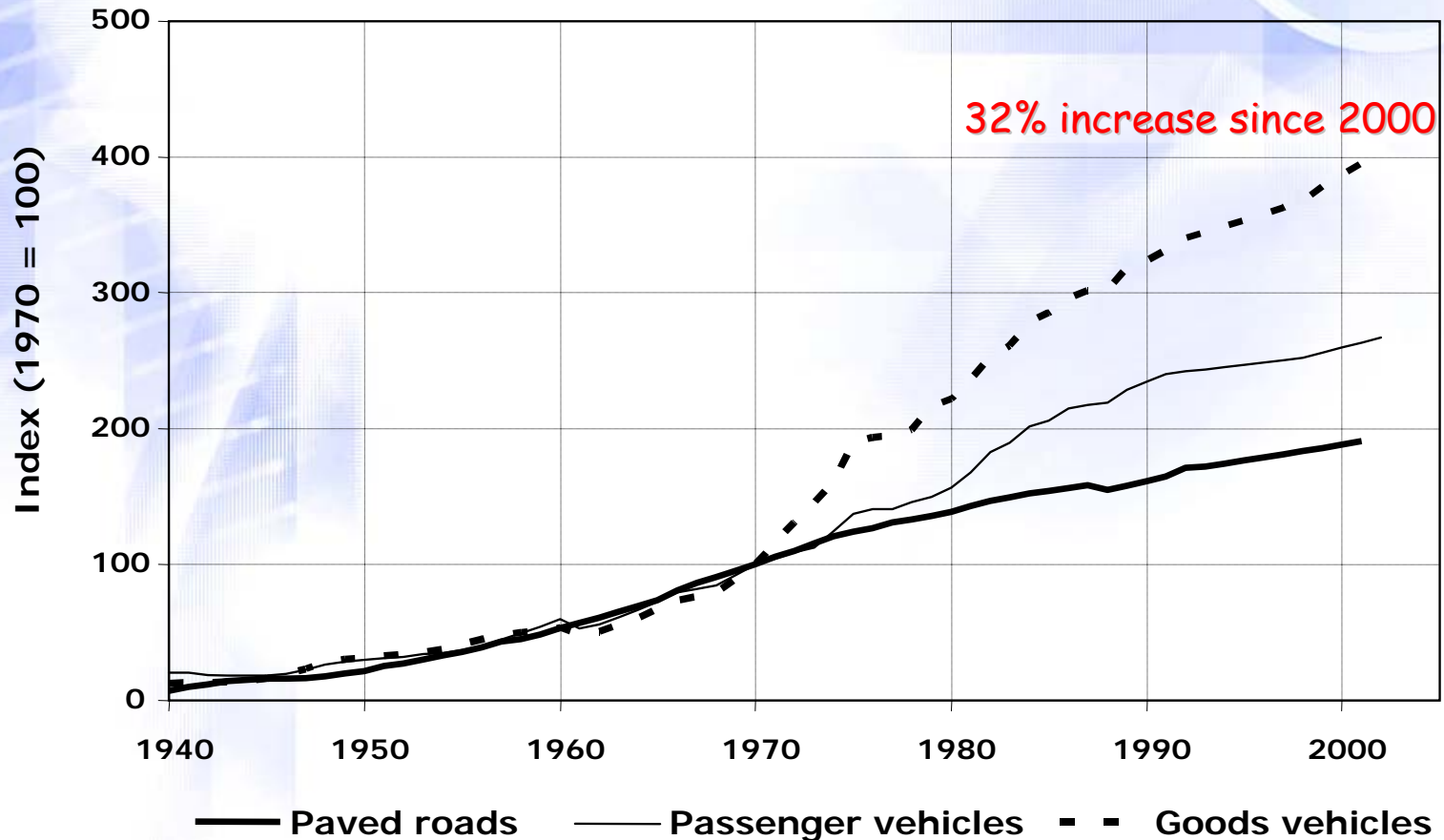
KEY ELEMENTS IN HEAVY VEHICLE ROAD TRANSPORT

- Roads (and bridges)
- Trucks (design, maintenance & operation)
- Drivers



Growth in Freight - South Africa

Paved national and provincial roads, passenger vehicles and commercial vehicles for transport of goods



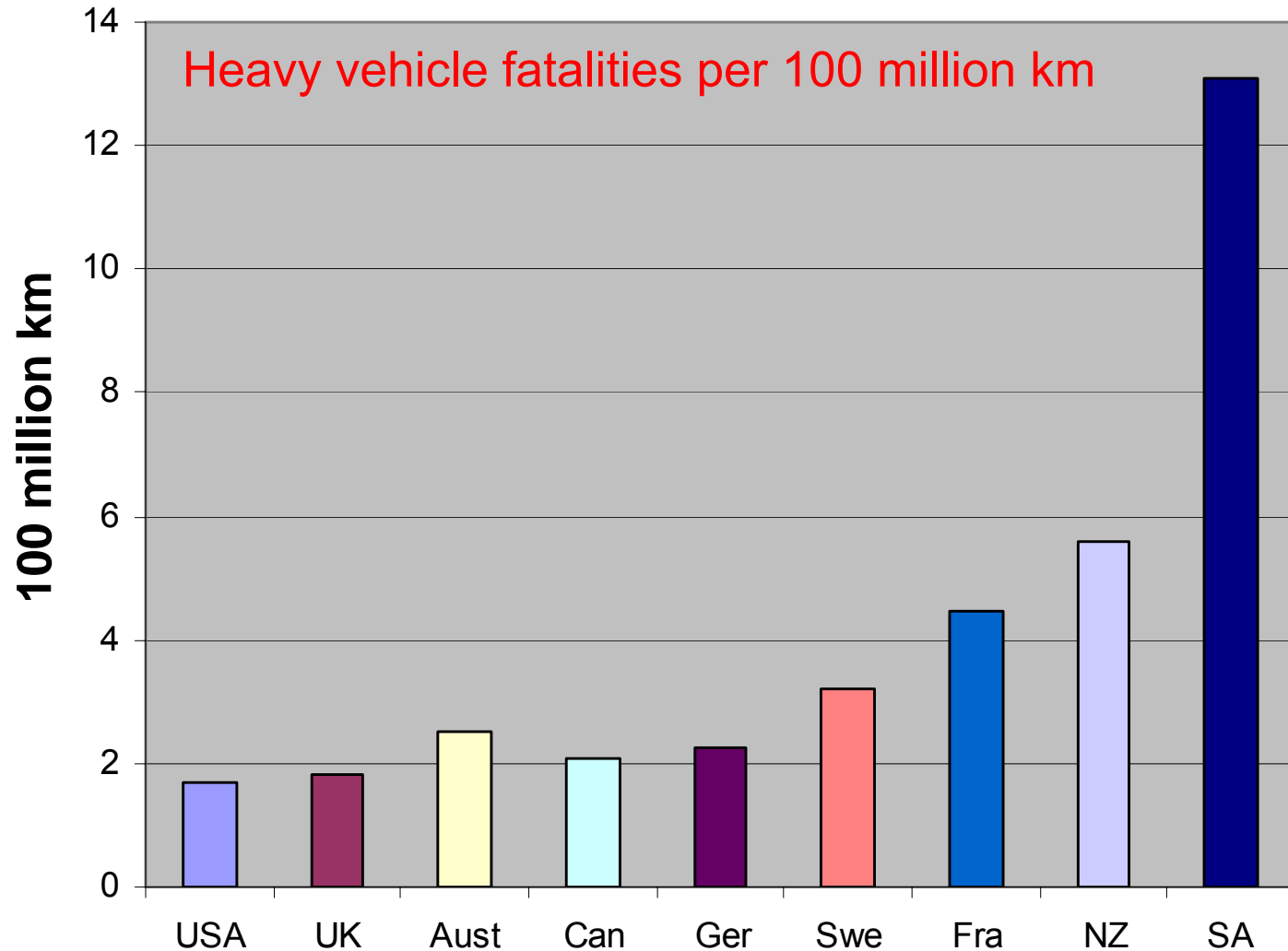








BENCHMARKING HEAVY VEHICLE SAFETY REPORT 2002



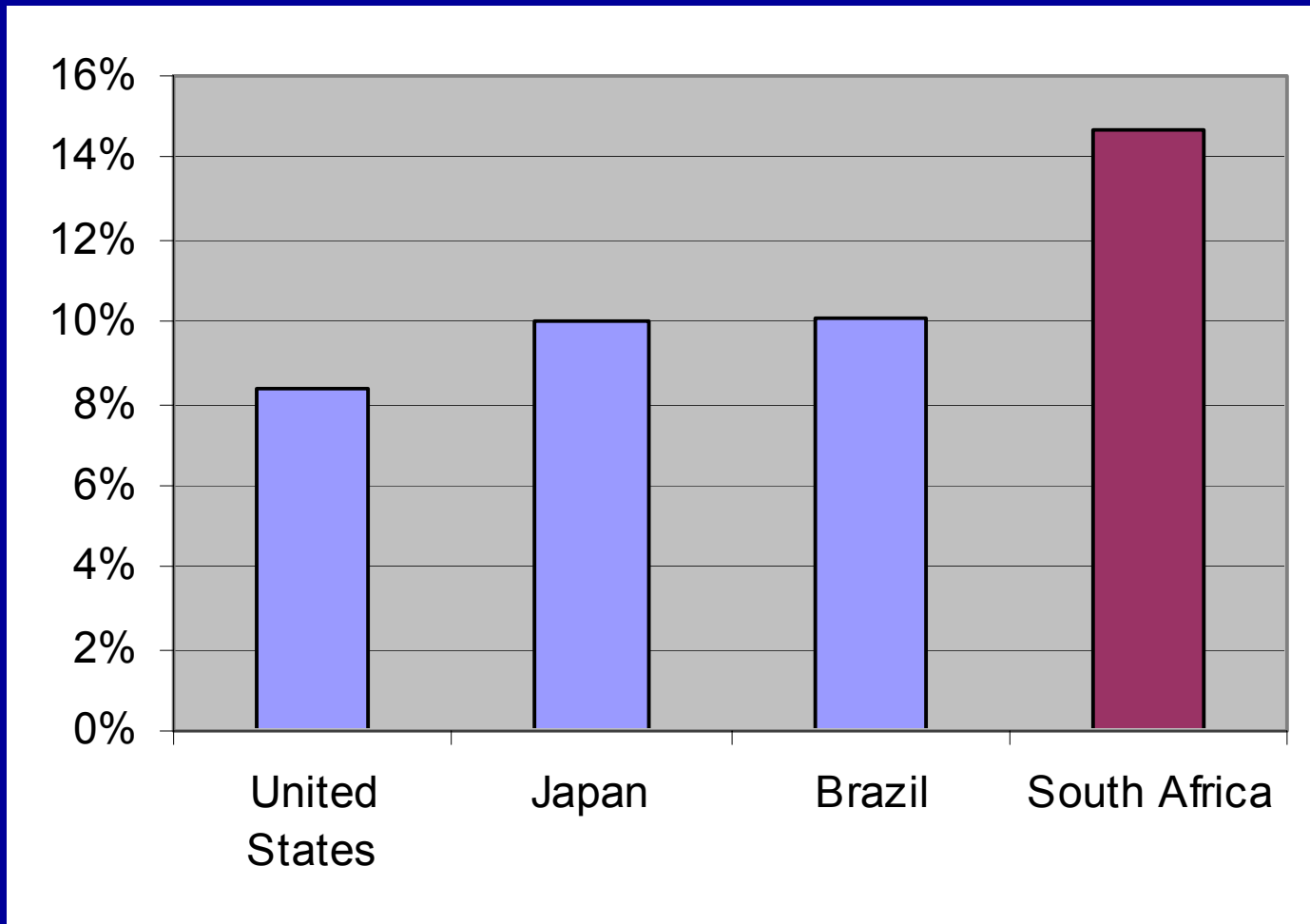






Cost of Logistics

The cost of logistics as a percentage of GDP in South Africa is almost double that of the United States and 50% more than Japan and Brazil



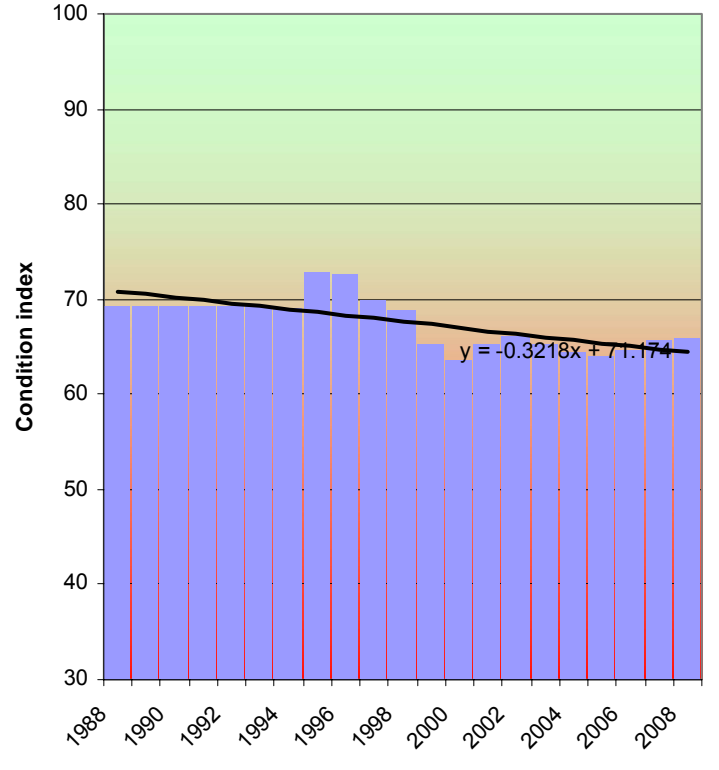
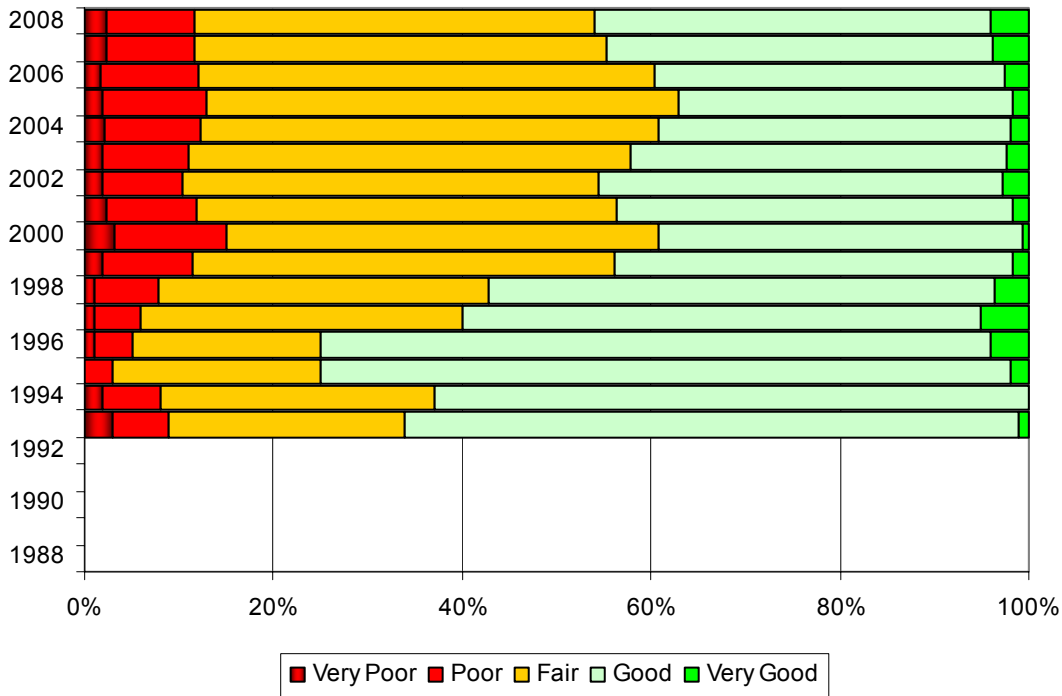
Some SA Road Statistics

- Current value: R 1 trillion
- Maintenance backlog: R 100 billion
(Provincial roads: R 95 billion)
- Annual maintenance need: R 32 billion
- Current maintenance expenditure:
R 8 billion

Road deterioration - long-term trends

National Roads

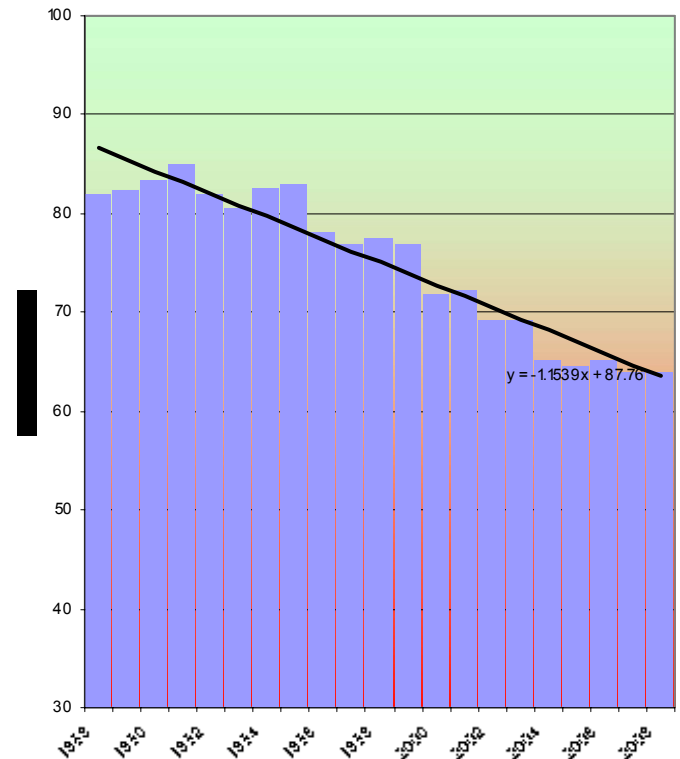
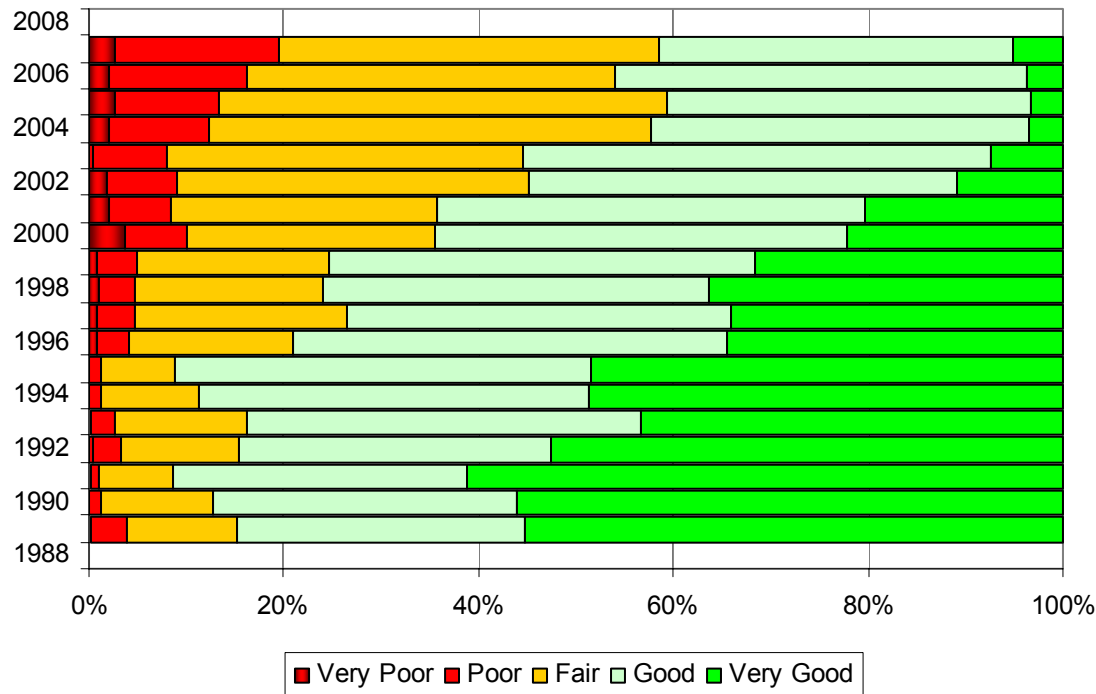
Condition of surfaced roads



Road deterioration - long-term trends

Provincial Roads

Condition of surfaced roads









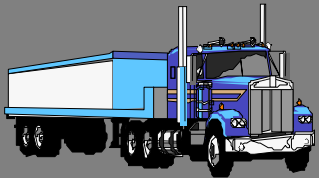


EFFECT OF OVERLOADED VEHICLES



Cars

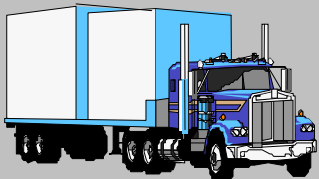
**%
Damage
Result**



Heavy Vehicles

80 - 85 % are legally loaded

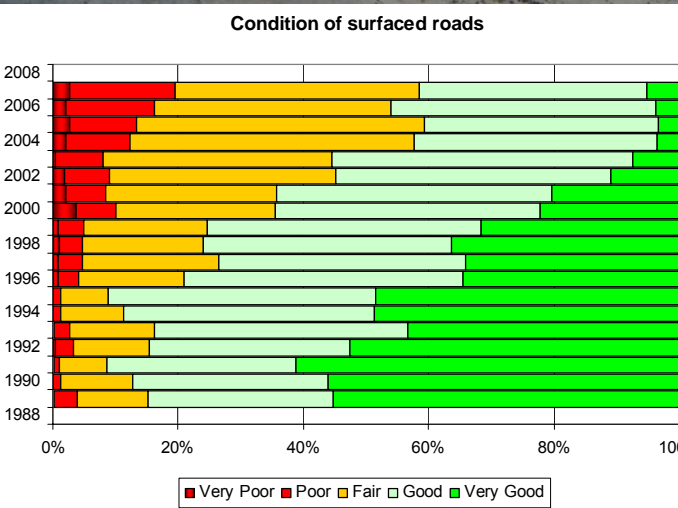
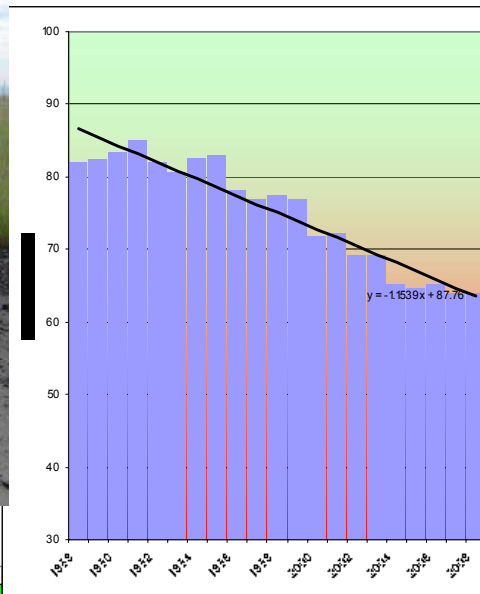
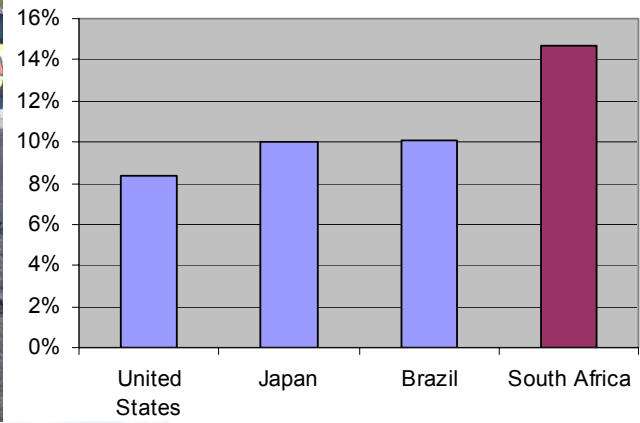
40 %



Heavy Vehicles

15 - 20 % are overloaded

60 %




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National Road Traffic Amendment Act (No. 64 of 2008)




Government Gazette Staatskoerant


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THE PRESIDENCY	DIE PRESIDENSIE
No. 165 17 February 2009	No. 165 17 Februarie 2009
It is hereby notified that the President has assented to the following Act, which is hereby published for general information:—	Hierby word bekend gemaak dat die President sy goedkeuring geheg het aan die onderstaande Wet wat hierby ter algemene inligting gepubliseer word:—
No. 64 of 2008: National Road Traffic Amendment Act, 2008.	No. 64 van 2008: Nasionale Padverkeerswysigingswet, 2008.



9 771682 584003 31907



AIDS HELPLINE: 0800-0123-22 Prevention is the cure

National Road Traffic Amendment Act (No. 64 of 2008)

- Deals with numerous issues in the RTA including:
- Responsibilities of **consignors and consignees** with regards actions and omissions;
- Proof of certain facts (**goods declaration** or any other document relating to the load of a vehicle is adequate proof)



National Road Traffic Amendment Act (Act or Omission)

74A. (1) Whenever any manager, agent or employee of a consignor or consignee, as the case may be, does or fails to do anything which, if the consignor or consignee had done or failed to do it, would have constituted an offence in terms of this Act, the consignor or consignee, as the case may be, shall be regarded to have committed the act or omission personally in the absence of evidence indicating —


- (a) that he or she did not connive at or permit such act or omission;
 - (b) that he or she took all reasonable measures to prevent such act or omission; and
 - (c) that such act or omission did not fall within the scope of the authority of or in the course of the employment of such manager, agent or employee,
- be deemed to have committed or omitted that act and be liable to be convicted and sentenced in respect thereof.

National Road Traffic Amendment Act (Act or Omission)

74A. (2) In the circumstances contemplated in subsection (1) **the conviction of the consignor or consignee shall not absolve the manager, agent or employee in question from liability or criminal prosecution**



National Road Traffic Amendment Act (Proof of certain facts)

- 
- (1) In any prosecution under this Act, a goods declaration or any other document relating to the load of a vehicle and confiscated from such vehicle shall be proof of the matters stated in such document unless credible evidence to the contrary is adduced.
 - (2) A copy of or extract from any document referred to in subsection (1), and certified as a true copy or extract by the officer in whose custody the original document is, shall, unless credible evidence to the contrary is adduced, be admissible as evidence and be proof of the truth of all matters stated in such document without the requirement of having to produce the original document from or of which such extract or copy was made.

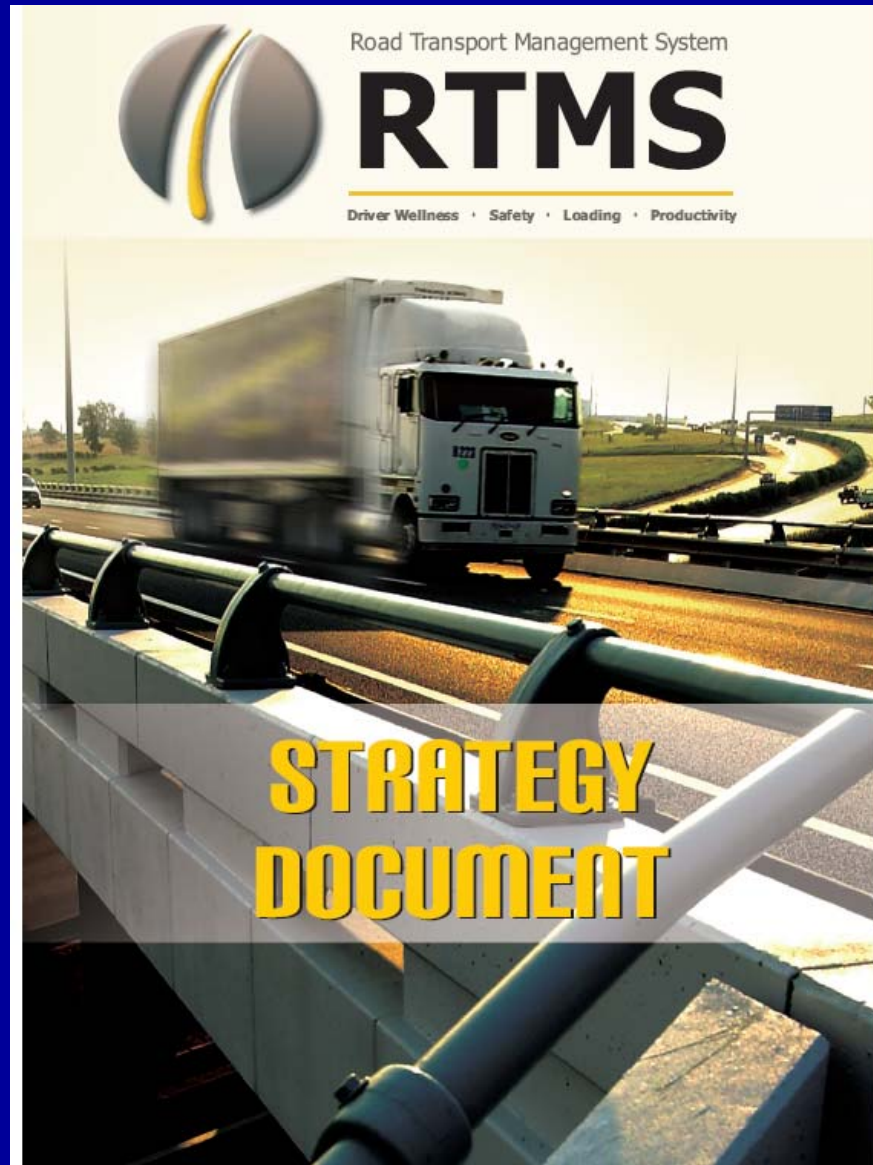
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ROAD TRANSPORT MANAGEMENT SYSTEM



WHAT IS THE RTMS?



- RTMS is an industry-led, government-supported, voluntary, self-regulation scheme that encourages consignees, consignors & road transport operators to implement a management system (a set of standards) with outcomes that contribute to preserving road infrastructure, improving road safety & increasing productivity.
- Key focus areas are:
 - - load optimisation
 - - driver wellness
 - - vehicle maintenance
 - - productivity

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Edition 1

STANDARDS SOUTH AFRICA

Recommended practice

Road transport management systems

Part 1: Operator requirements — Goods

This document does not have the status of a South African National Standard.

Road Transport Management System: Rules of Compliance

- Maintain a haulage fleet inventory
- Assess the vehicle mass before each trip
- Verify mass determination method
- Vehicle and load safety
- Vehicle maintenance
- Driver wellness (fatigue and health)
- Provide training & education
- Assign tasks and responsibilities
- Keep records and documentation
- Perform internal reviews







Progress with Certification

■ 10 transport companies

Buhle Befu Carriers

Timber 24

Supergroup PMB Timber Division

Timber Logistics

Supergroup Richards Bay

DS Preen

Gaskells Timber Logistics

Zabalaza Hauliers

Barloworld Logistics Africa

Jowells Transport

■ 150+ vehicle combinations

■ Primarily in forestry

Driver Wellness

Productivity

Loading

Safety



RTMS Forestry committee

- Measure loads
- Assign vehicles to standard configurations
- Monthly reporting
 - Consignors (dispatchers)
 - Transport operators
 - Consignees (pulp mills)
- Set industry targets

Driver Wellness

Productivity

Loading

Safety

Consignors

Road Transport Management System
RTMS
Driver Wellness • Safety • Loading • Productivity

Driver Wellness
Productivity
Loading
Safety

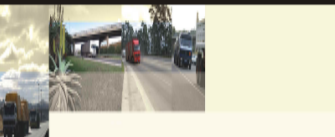
Dispatcher	Total Loads	Oct	Nov	Dec	Degree
CTC	109	14.3	22.7	24.8	3,181
TWK Landbou	1368	6.0	27.8	24.2	3,090
NCT	3665	11.2	23.1	22.2	3,102
HM Timber	25	5.1	7.4	8.0	1,925
Sappi	12059	3.2	6.1	6.0	3,248
Masonite	337	15.1	18.9	5.6	1,877
Mondi	5008	5.2	5.7	5.3	2,779
Mondi Shanduka	538	2.1	2.7	3.9	1,490
York Timbers	342	2.7	2.4	2.9	1,970
Komatiland Forests	364	5.3	2.1	2.2	1,669

Best operators



Transport Operator	Accredited	# of trips	Oct	Nov	Dec	Degree
JEI Forestry	<i>no</i>	139	0.0	0.0	0.0	0
Manzini Estates	<i>no</i>	51	0.0	0.0	0.0	0
LT Plant	<i>no</i>	115	2.5	1.1	0.9	1550
Super Group Transport	YES	860	2.5	1.8	1.4	1354
Buhle Betsu Carriers	YES	3287	2.4	2.4	2.7	1814
Timber 24	YES	3083	3.0	2.6	3.6	5353
Timber Logistics	YES	2831	2.8	2.6	2.8	2371
Unitrans Freight-Sugar & agri	<i>no</i>	817	2.8	3.1	3.3	2264
Gaskells Transport	<i>no</i>	503	2.5	3.6	1.4	1957
Zabalaza Hauliers	YES	1111	4.9	4.1	2.4	1566
DS Preen	YES	384	2.6	8.1	2.9	1850
Zama Forestry Services	<i>no</i>	160	3.1	7.4	1.9	1650
Misty Ridge	<i>no</i>	58	7.1	7.4	3.4	1875
Cyril's Transport	<i>no</i>	79	—	11.7	3.8	1880

Worst offenders



Dispatcher	Transport Opt	Truck No	Market	Gross	Limit	Over
Mondi	FST Transport	NV15097	Silvacel	72450	56000	16450
NCT	Tuta Carriers	NKK1028	C.T.C	62900	47000	15900
NCT	Tuta Carriers	NKK1028	C.T.C	62900	47000	15900
NCT	Bear Agency	NH11022	NCT Durban WC	70700	56000	14700
Mondi	Tuta Carriers	NKK1028	Mondi RBay	60350	47000	13350
Sappi	AC Timbers	NPS67685	Sappi Saiccor	60250	47000	13250
Mondi	Oldfield Transport	NUM12358	Mondi RBay	60200	47000	13200
Sappi	Ramlall K	NT18491	Sappi Tugela	37150	24000	13150
NCT	Faith Wheels	NV12209	C.T.C	68800	56000	12800
NCT	Faith Wheels	NV12209	C.T.C	68800	56000	12800

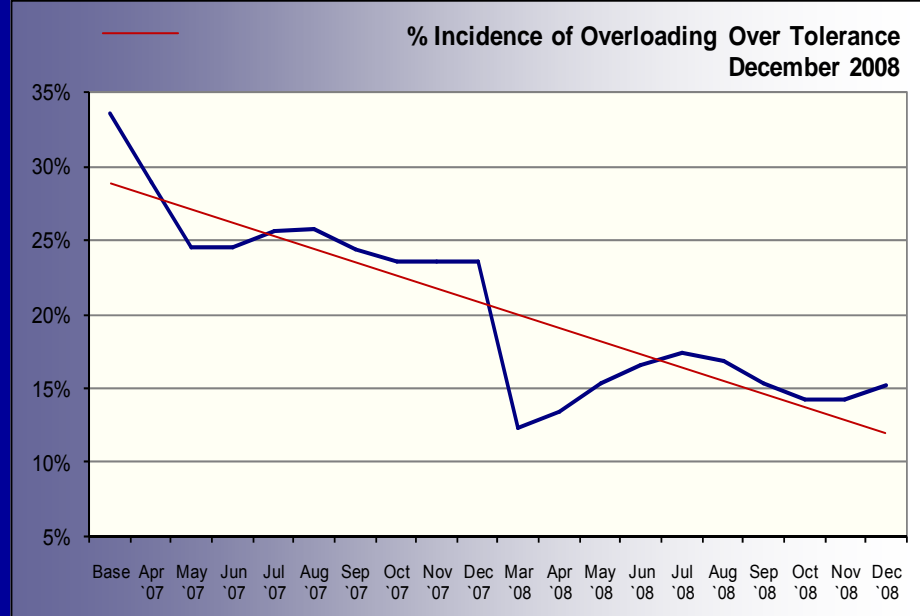
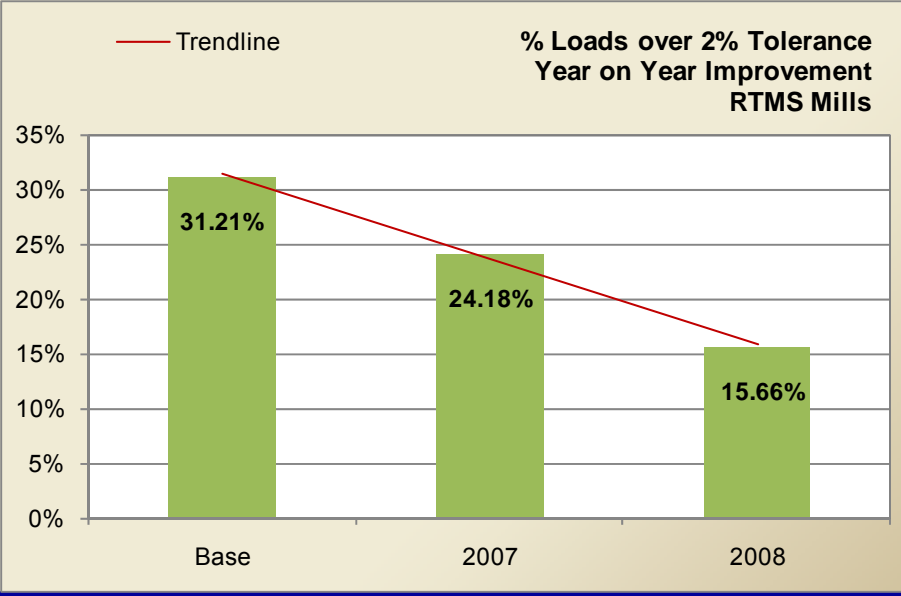
RTMS Initiative in Sugar



Road Transport Management System

RTMS

Driver Wellness • Safety • Loading • Productivity



Driver Wellness
Productivity
Loading
Safety

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ISO/PC241 Road Traffic Safety Management Systems



- Globally, road crashes kill more than 1.2 million people a year; for every death there are 20 to 50 serious injuries
- In February 2008 ISO approved the creation of a new project committee to develop an international standard for road traffic safety (RTS) management systems
- Secretariat assigned to the Swedish Standards Institute (SIS)
- Stakeholders on the committee represent road authorities responsible for road traffic infrastructure, public authorities, government departments, the transport sector, manufacturers, emergency services, health services and other associations concerned with aspects of road safety

ISO/PC241 Road Traffic Safety Management Systems



- Task of the committee is to develop a standard following a generic management system approach pioneered by ISO 9001 for quality management and since applied to other standards, including ISO 14001 (environmental management) and ISO 28000 (supply chain security)
- The standard will be applicable to all stakeholders with an influence of road safety including companies and organisations involved in:
 - The design, building and maintenance of roads
 - The design and production of road vehicles, including parts and equipment
 - The transport of goods and people (operators)
 - The generation of significant flows of goods and people (consignors and consignees)
 - Having personnel working on road transport systems
 - Responding to road traffic accidents

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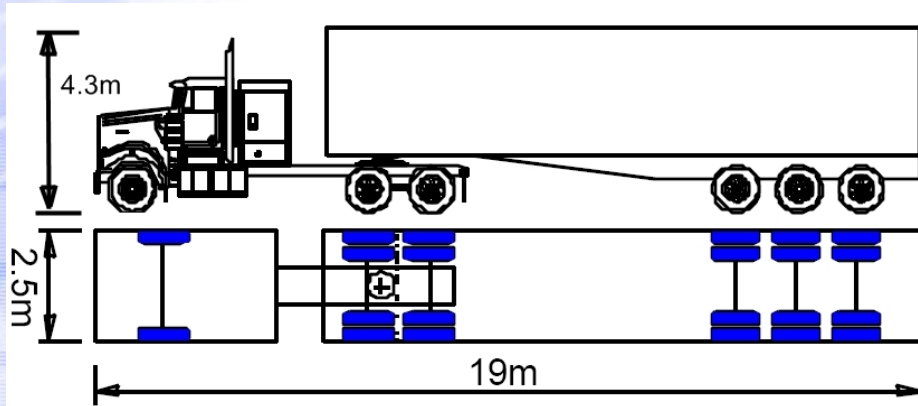


KEY ELEMENTS IN HEAVY VEHICLE ROAD TRANSPORT

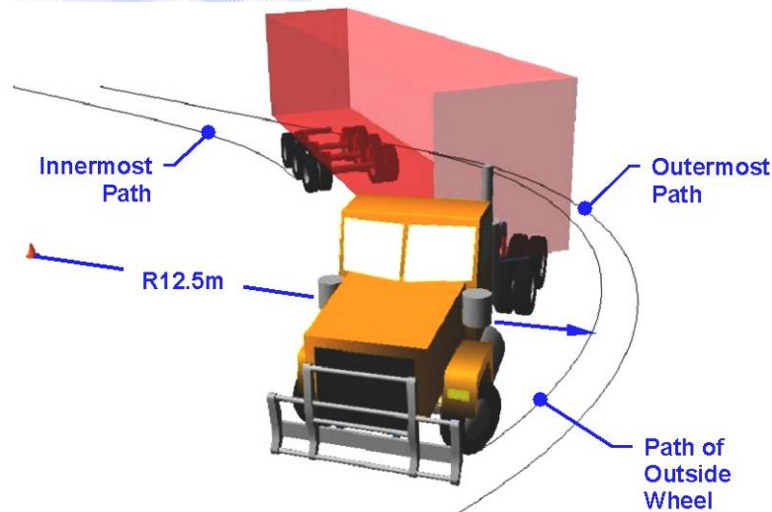
- Road infrastructure
- Vehicles (**design**, maintenance & operation)
- Drivers



Prescriptive vs Performance-based Standards



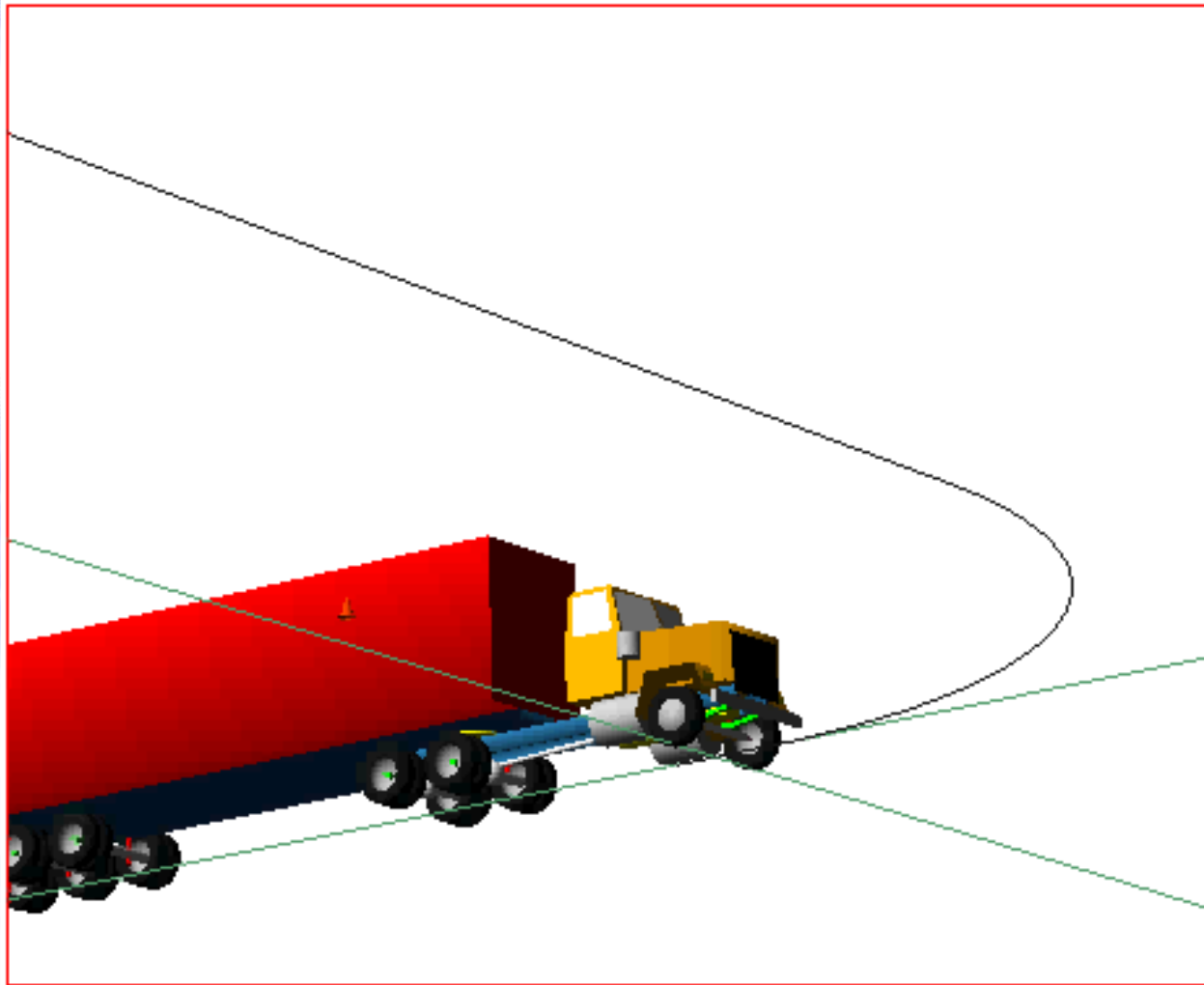
- What the vehicle looks like



- What the vehicle can do

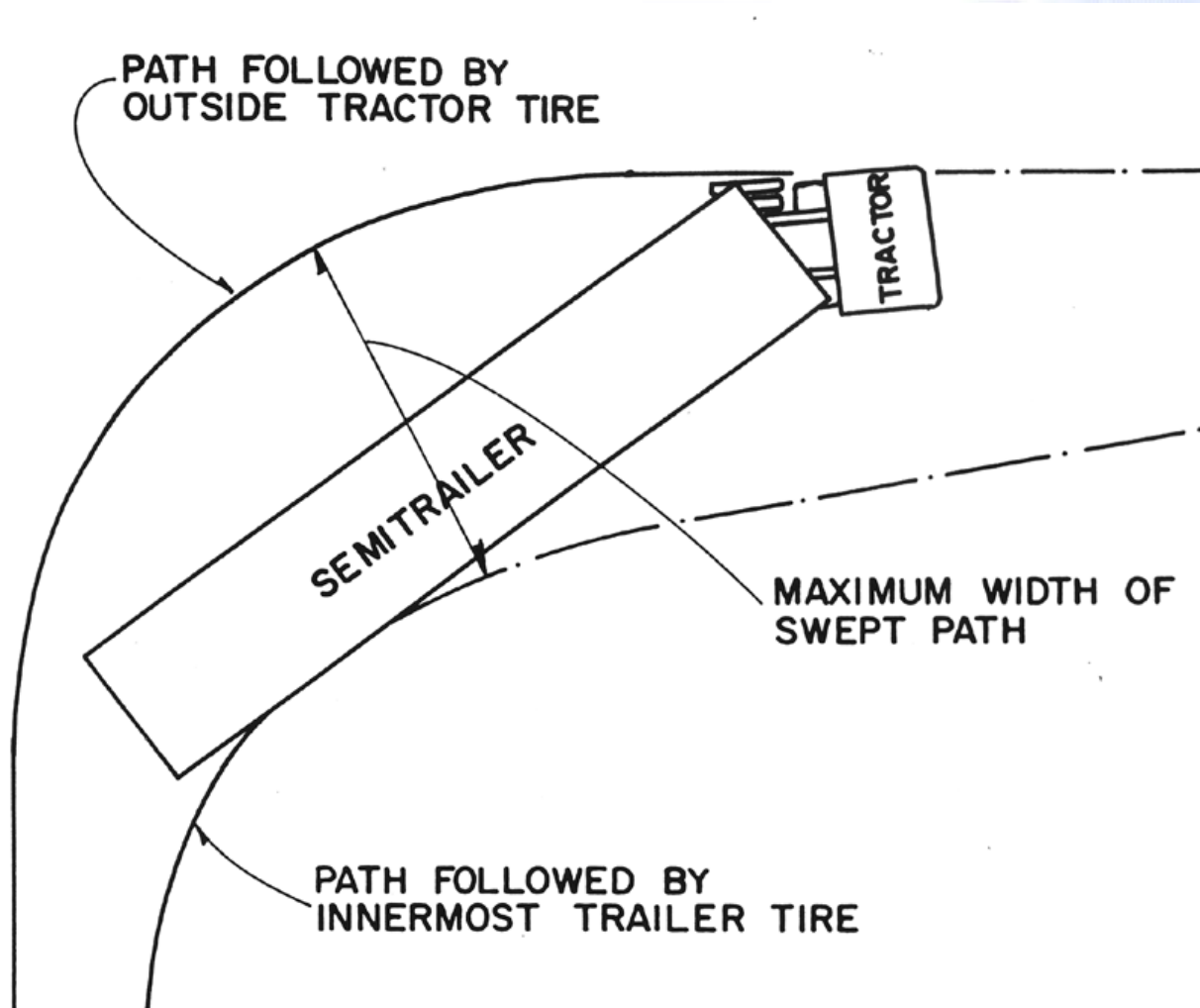


Low-Speed Offtracking



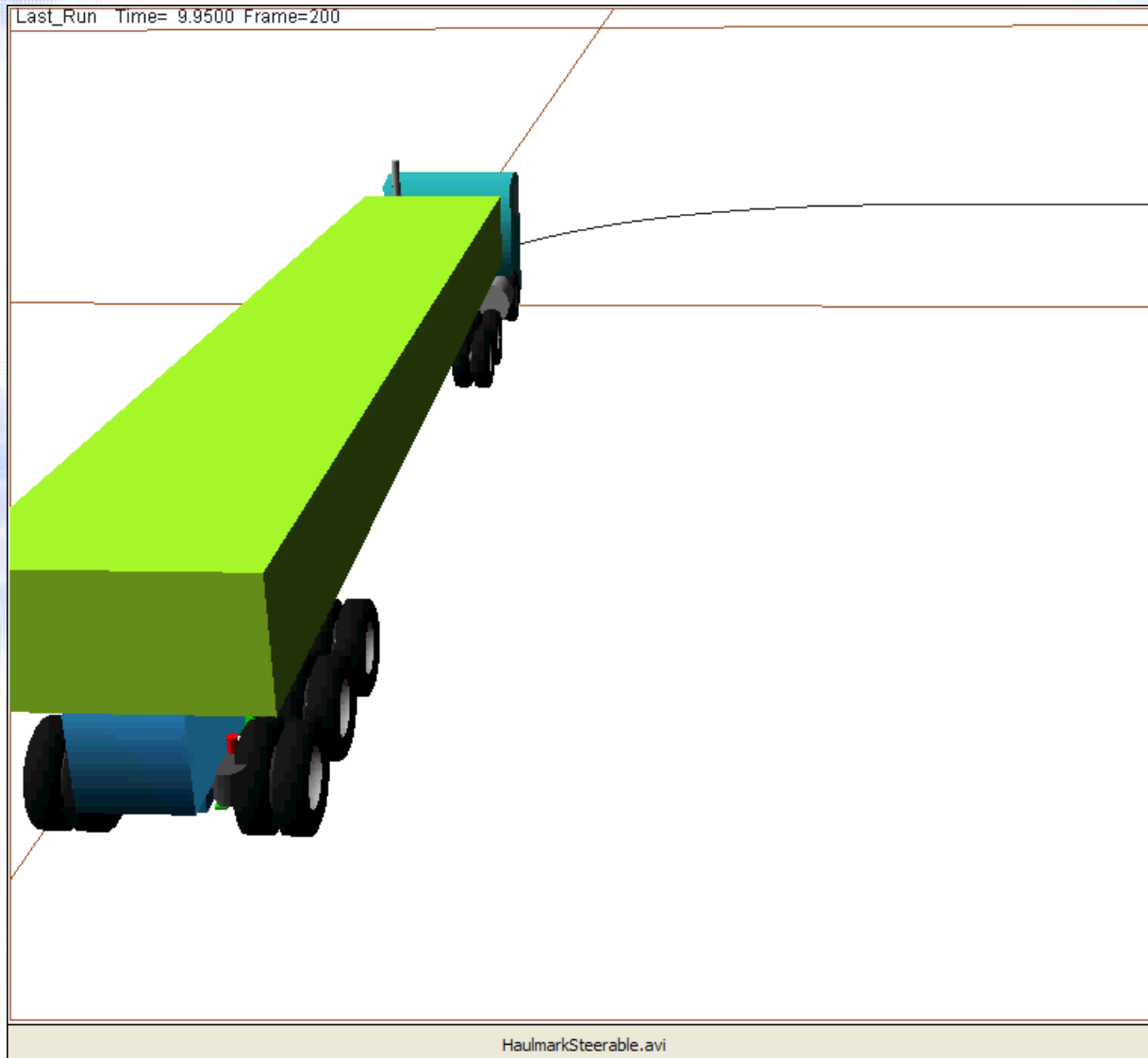
from NTC/Austrroads PBS National Workshops

Maximum Width of Swept Path

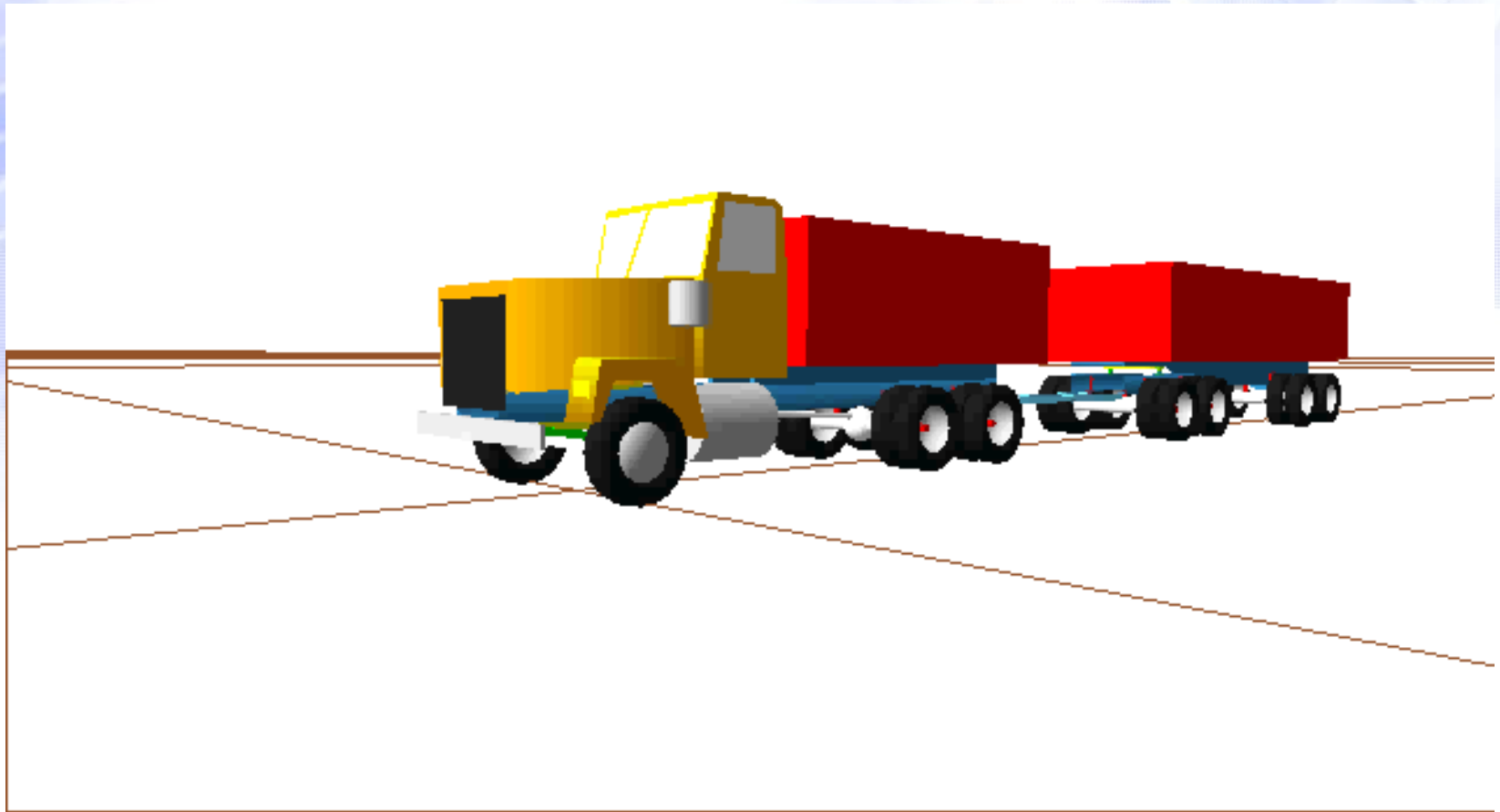


from Ervin and Guy (1986)

Low-Speed Offtracking



Static Rollover Threshold (SRT)



from NTC/Austrroads PBS National Workshops

Rollover in a steady turn





**ABNORMAL LENGTH
VEHICLE - 27m**

EDY204QP

AFRIT
QUALITY ON TIME

AFRIT
QUALITY ON TIME

AFRIT

AFRIT

AFRIT

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Timber24

62

ACTROS

NP 22147

ABNORMAL LENGTH VEHICLE - 27M

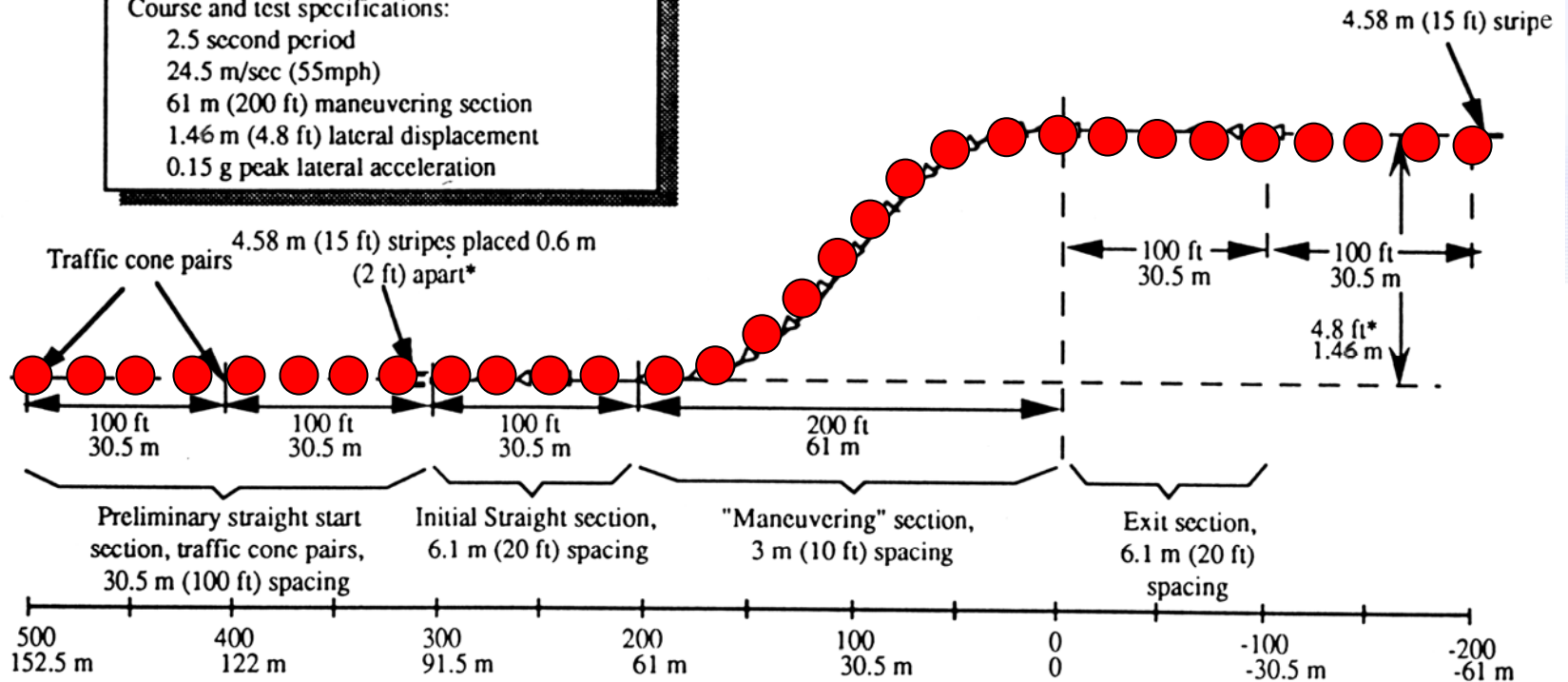
RTMS



PBS Lane Change Manoeuvre (SAE J2179)

Course and test specifications:

- 2.5 second period
- 24.5 m/sec (55mph)
- 61 m (200 ft) maneuvering section
- 1.46 m (4.8 ft) lateral displacement
- 0.15 g peak lateral acceleration



* not drawn to scale

Baseline cf. PBS vehicle



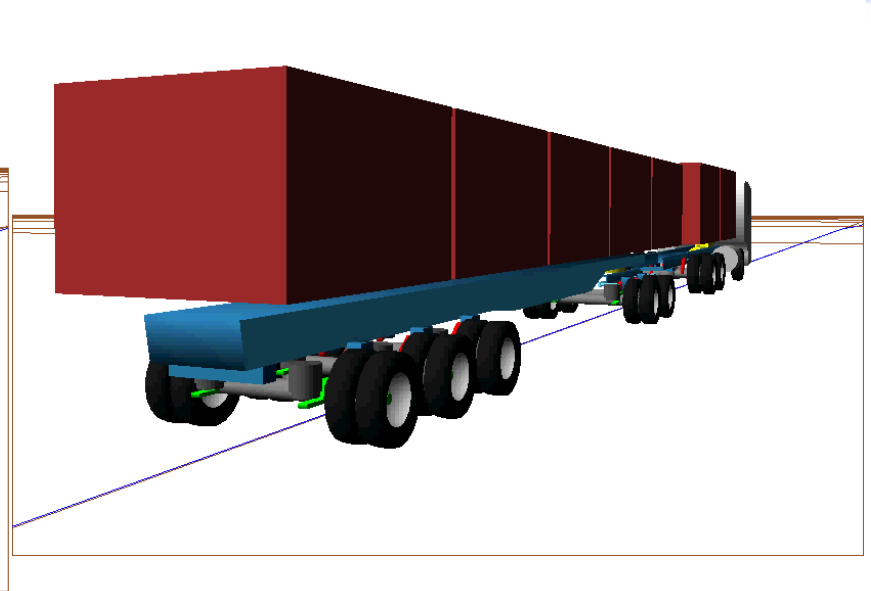
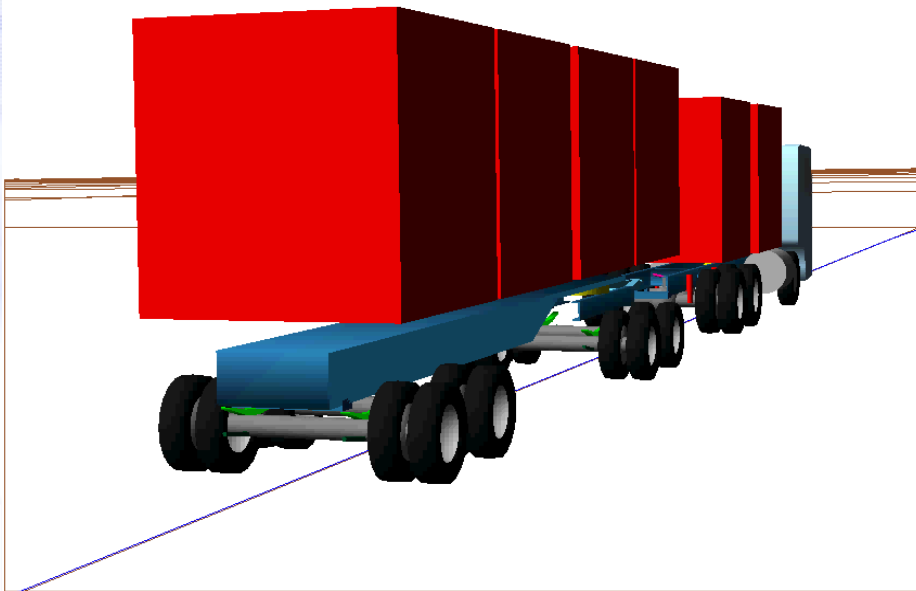
baseline

Last_Run Time= 2.4000 Frame=50



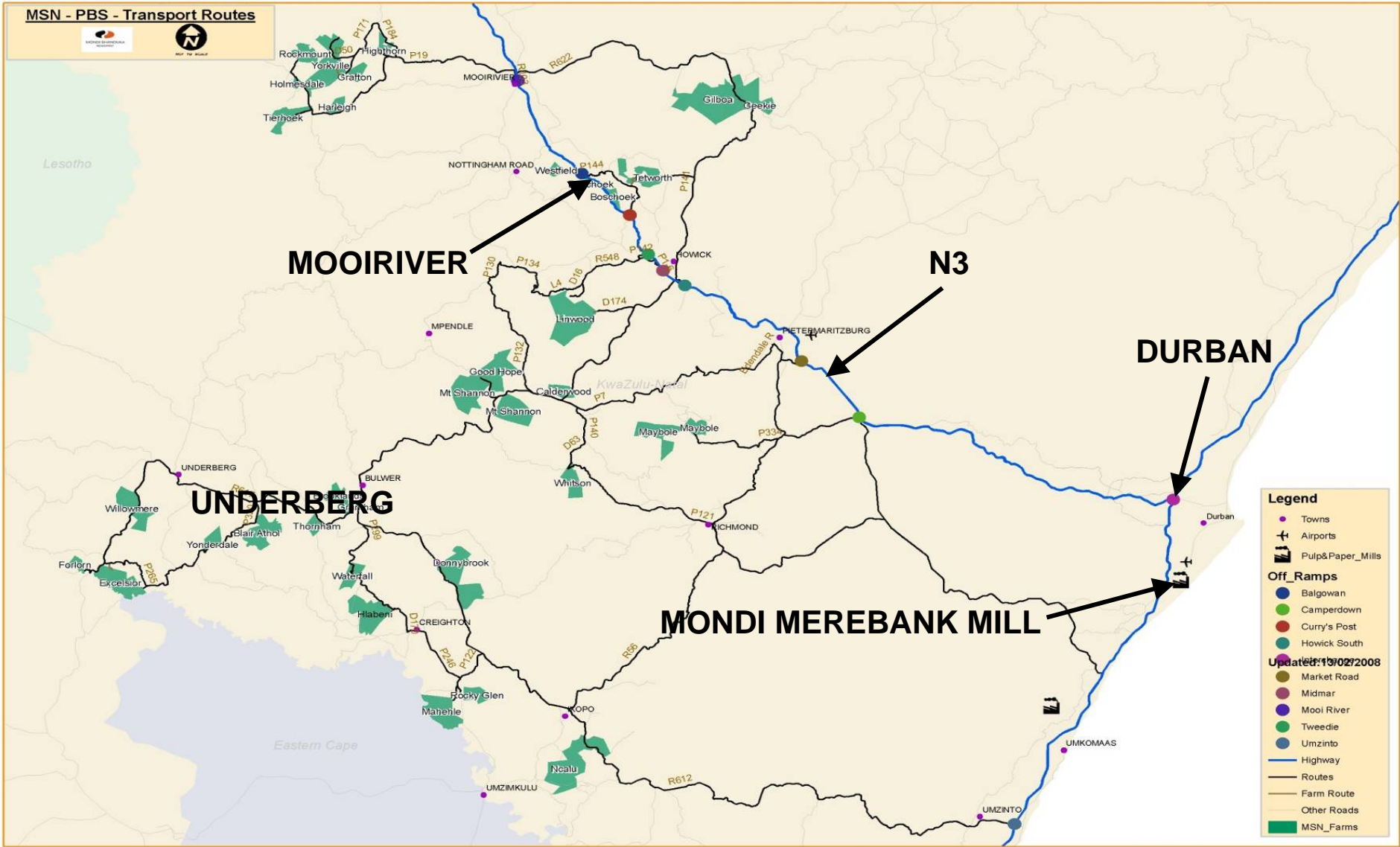
PBS

Last_Run Time= 2.4000 Frame=50



Mondi PBS Vehicle Route

MSN - PBS - Transport Routes



Legend

- Towns
- ✈ Airports
- 🏭 Pulp&Paper_Mills

Off_Ramps

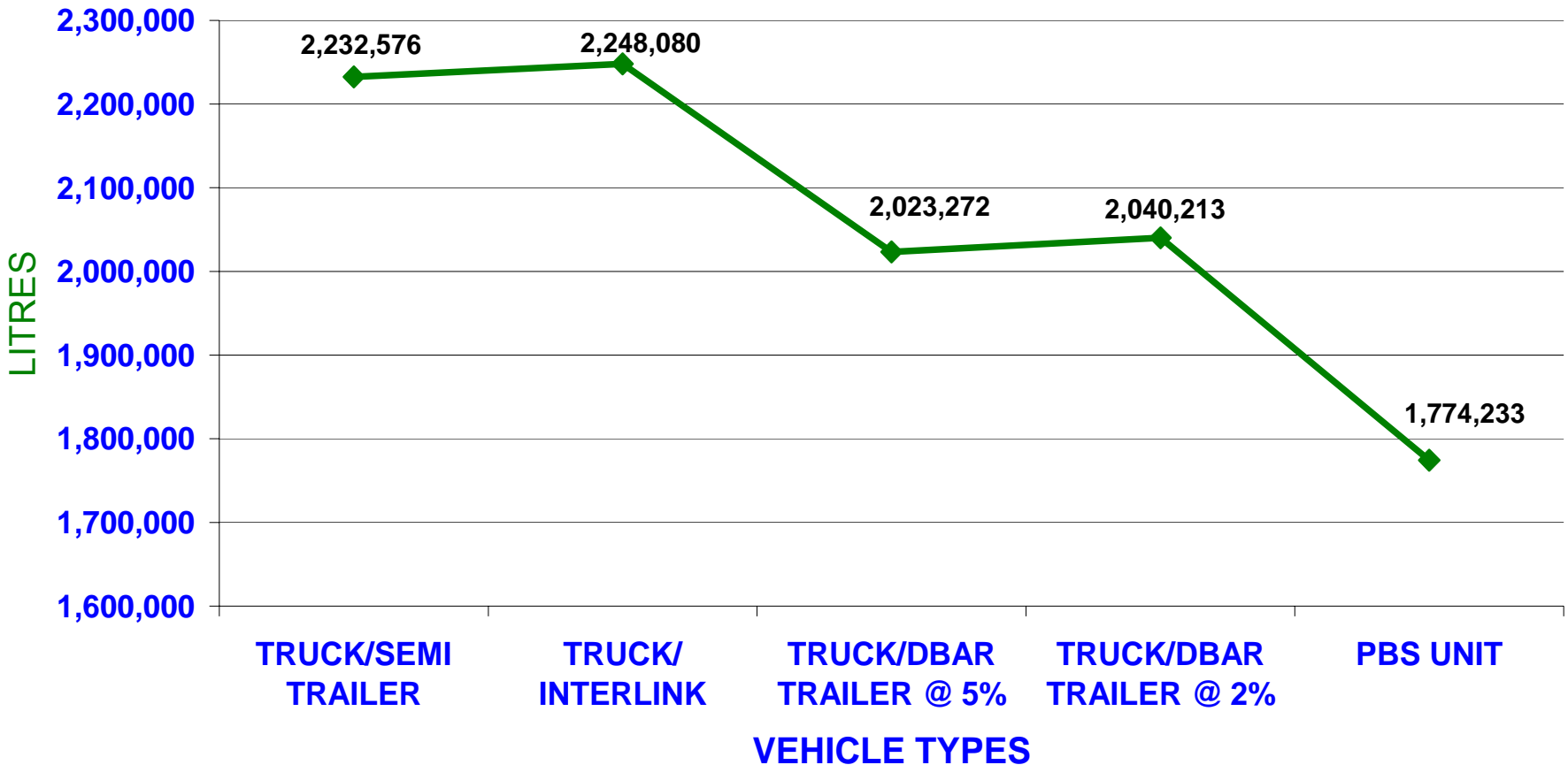
- Balgowan
- Camperdown
- Curry's Post
- Howick South
- Market Road
- Midmar
- Mool River
- Tweedie
- Umzinto

Updated: 13/02/2008

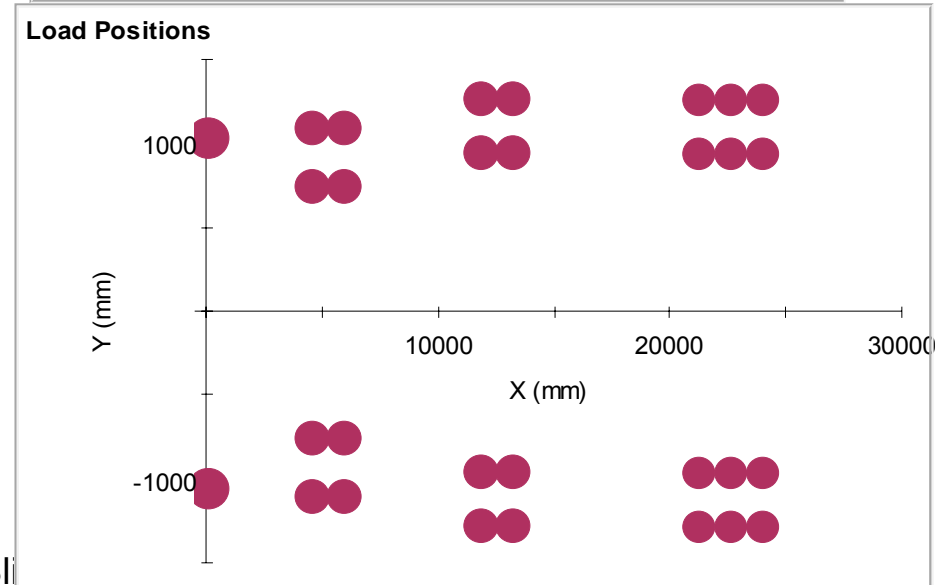
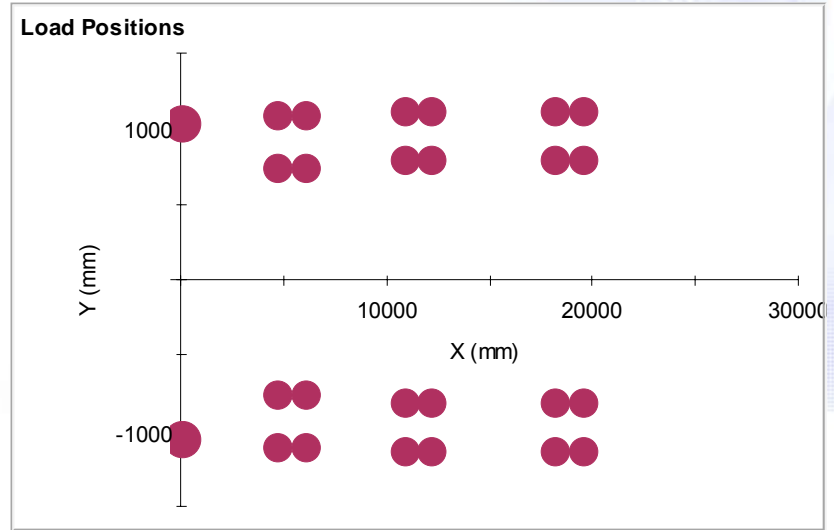
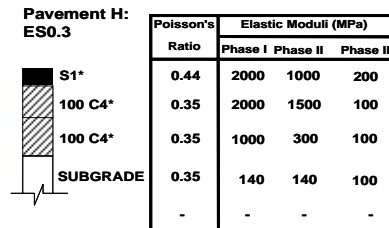
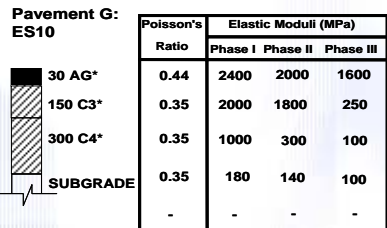
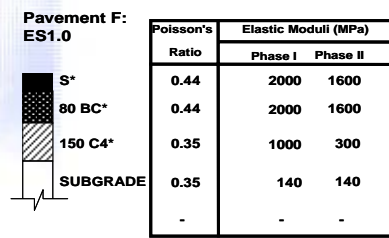
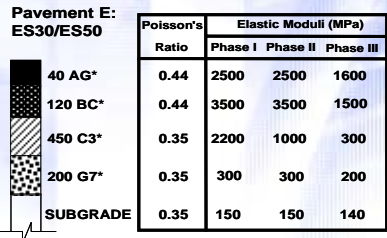
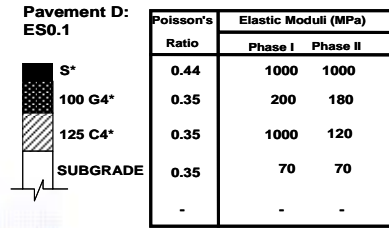
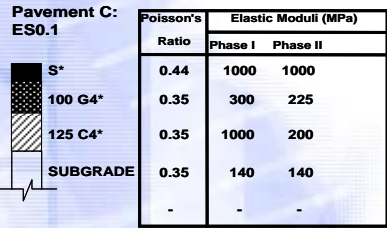
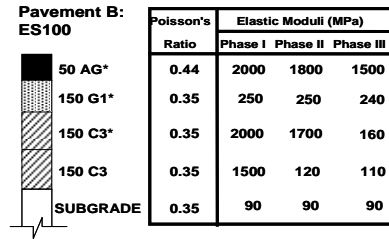
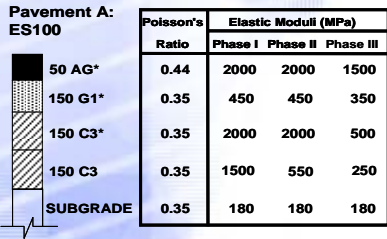
- Highway
- Routes
- Farm Route
- Other Roads
- MSN_Farms

Mondi PBS vehicle: Fuel Usage Comparisons

LITRES FUEL USED PER 400,000 TONNES @ 171 KM LEAD DISTANCE

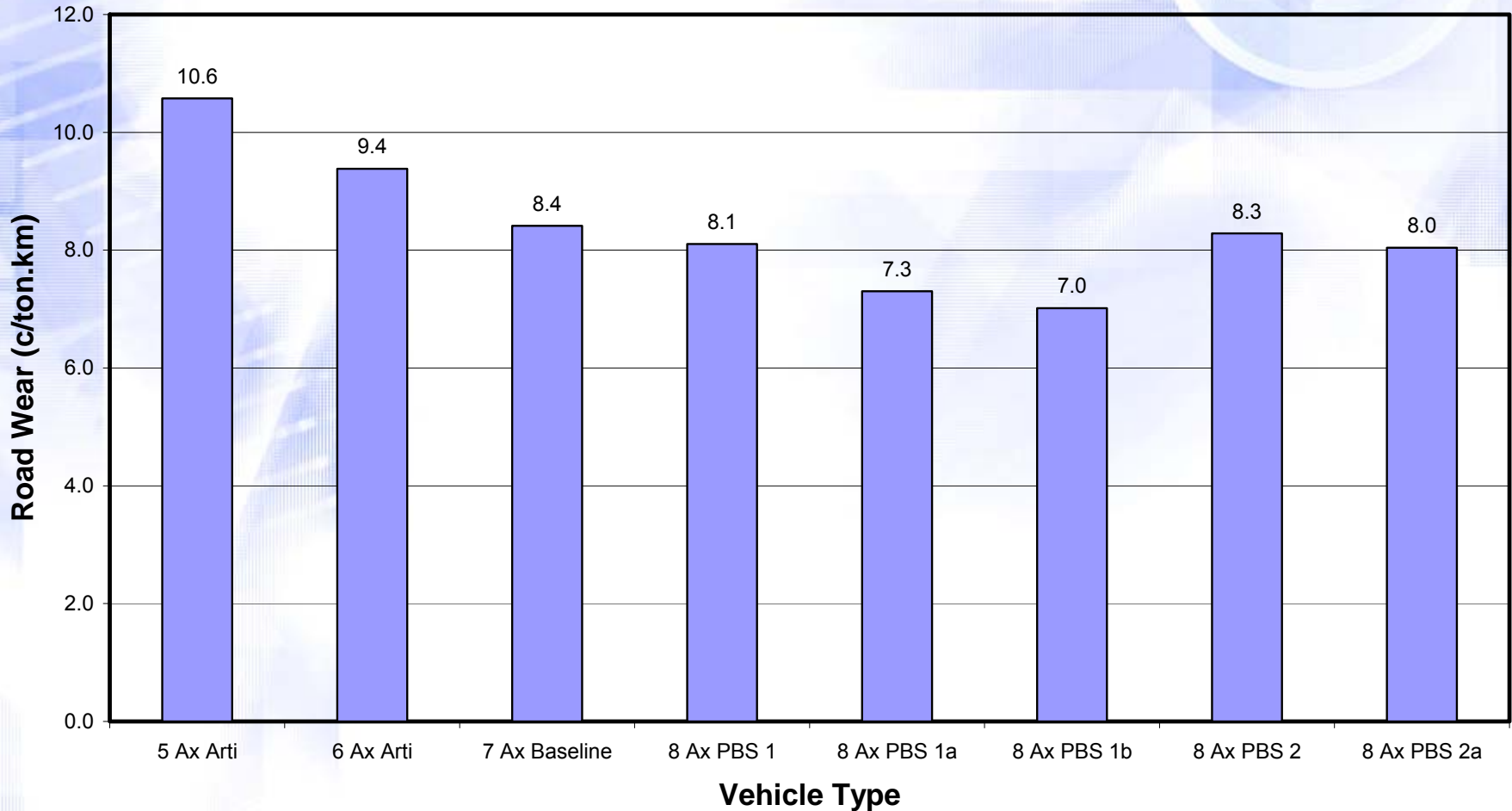


Comparison of Baseline and PBS vehicles on Road Wear: Input data



* Classification according to TRH 14 (CSRA, 1985)

Comparison of Baseline and PBS vehicles on Road Wear: Results



SUMMARY OF PERFORMANCE OUTCOMES

- Two PBS vehicles, 8 months operation

Performance indicator	Measured result
Payload	Average improvement: 19.3 %
Payload Efficiency Factor	Increase from 69.3 % to 70.5 %
Tons transported per month	Average increase: 19.3 %
Fuel consumption	Average savings: 12.7 %
Fuel savings (based on 700 000 tons/annum contract)	485 000 litres per annum
Fleet size	Reduction of 17 %
Incident/accidents*	Reduction from 3.1 to 1.1 per month
CO ₂ emissions (based on 700 000 tons/annum contract)	Reduction of 1 280 tons of CO ₂ per annum
Road wear	Reduction varies from 2 to 23 %

* Based on a fleet of 45 new vehicle combinations incorporating a number of PBS design features

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OECD project: Heavy Vehicles

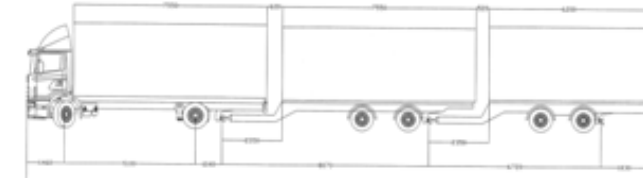
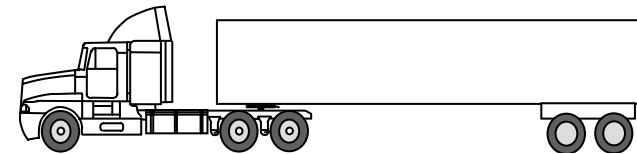
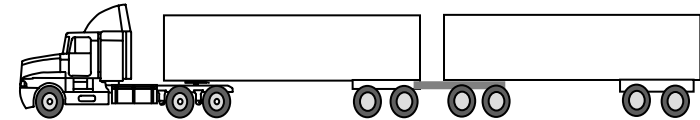
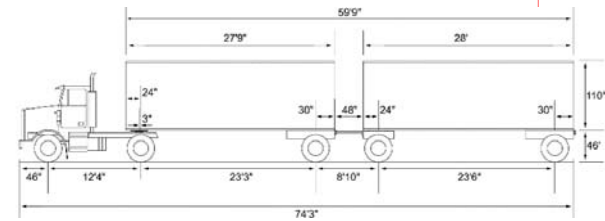
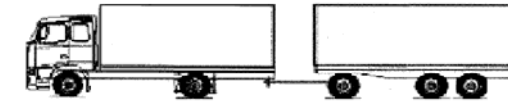
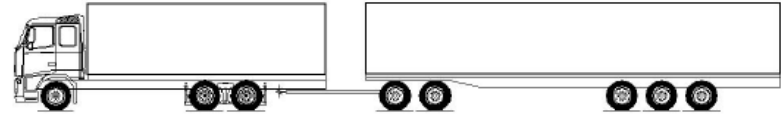
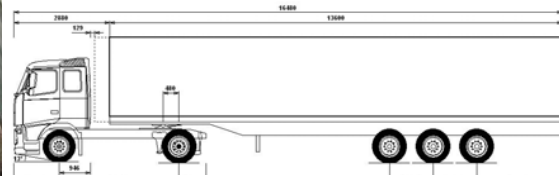
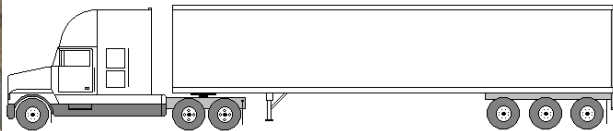
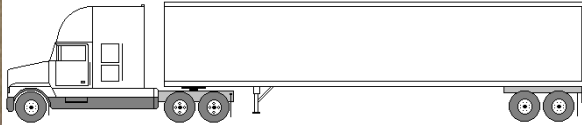
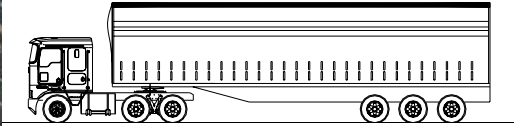
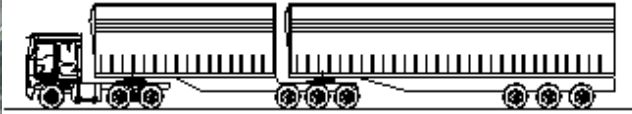


- **MOVING FREIGHT WITH BETTER TRUCKS**

- *Improving safety, productivity and sustainability*



OECD project: Heavy Vehicle Performance indicators

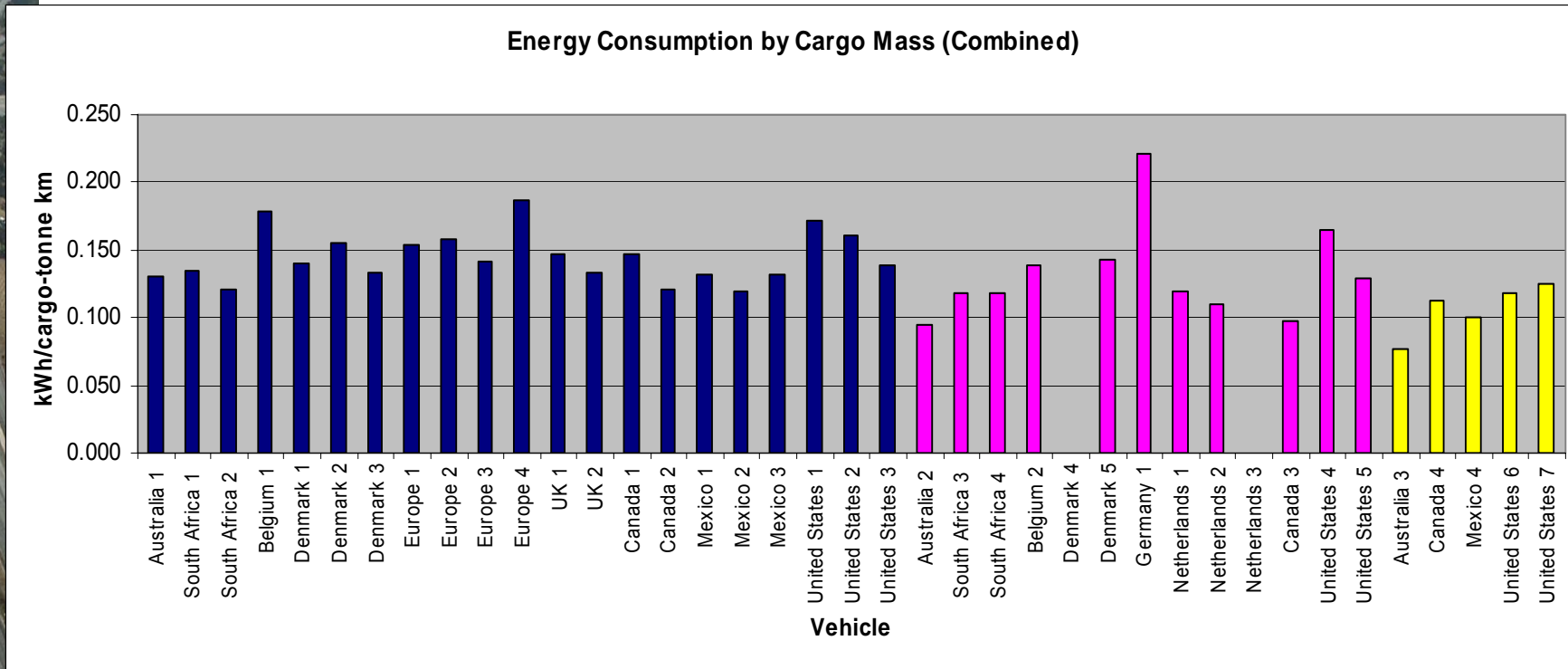


OECD project: Heavy Vehicle Performance indicators

- **Safety**
 - Vehicle Dynamic Performance Measures (PBS)
- **Environment (Energy/emissions)**
 - Fuel consumption/CO₂ emissions at 90 km/hr
 - Energy efficiency by cargo volume
 - Energy efficiency by cargo mass
- **Road infrastructure**
 - Road Consumption Productivity Factor (RCPF)
 - Structure Productivity Factor (SPF)
- **Transport productivity**
 - Payload Efficiency Factor (PEF)
- **Transport productivity and road space efficiency**
 - Volume Efficiency Factor (VEF)
 - Mass Efficiency Factor (MEF)



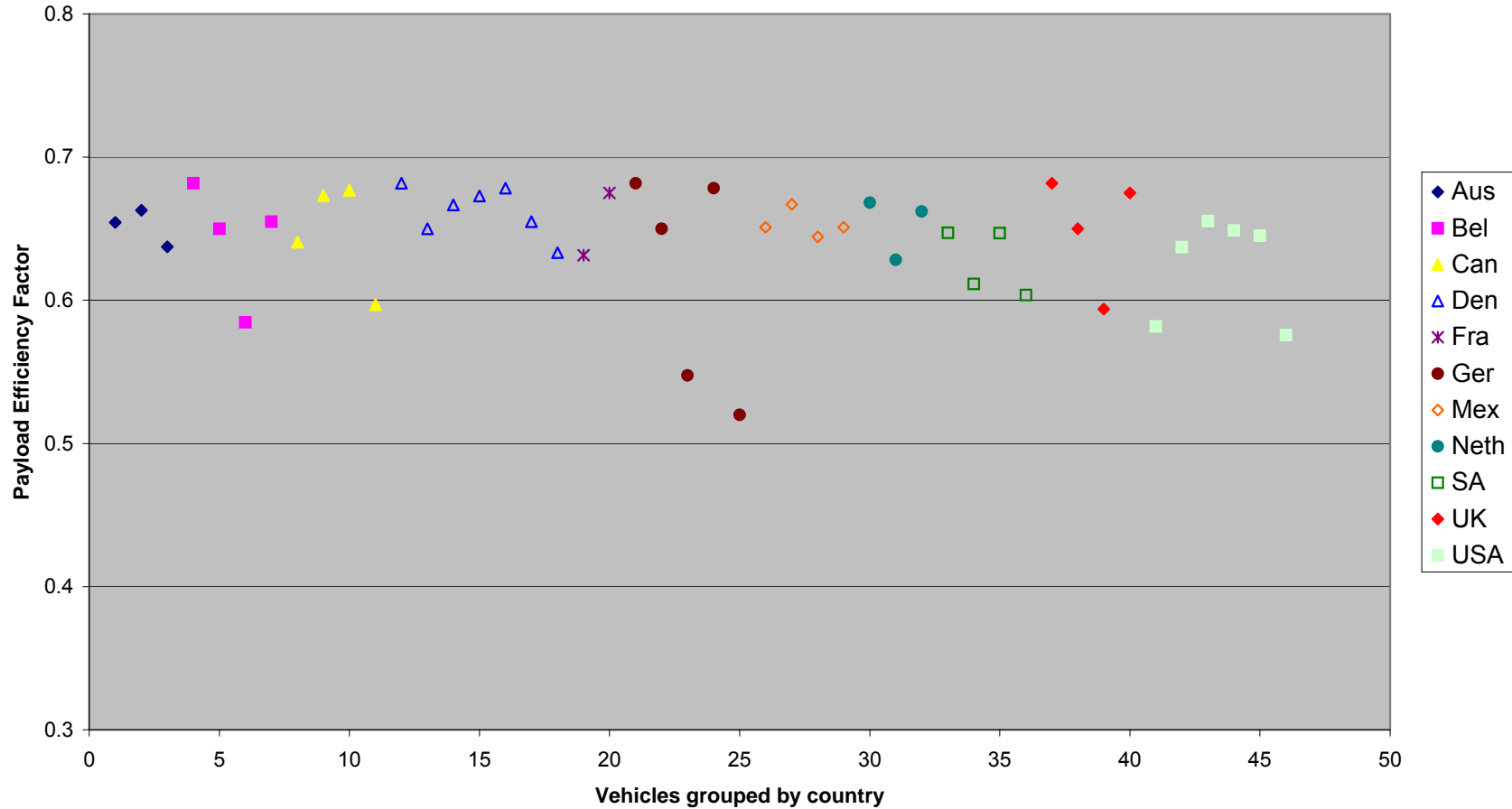
OECD project: International Benchmarking of heavy vehicles



OECD project: International Benchmarking of SA PBS vehicles

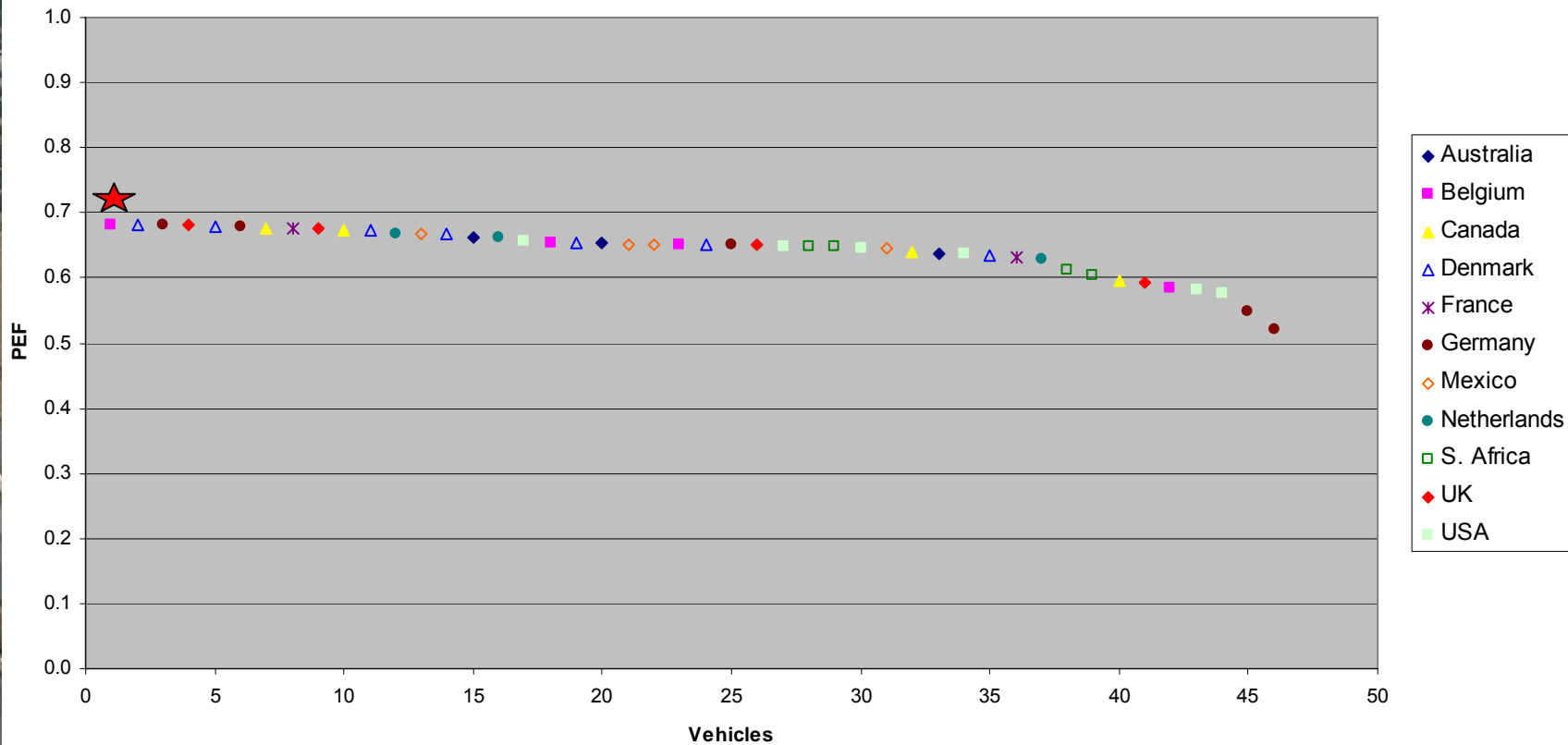


Payload Efficiency Factor - country



OECD project: International Benchmarking of SA PBS vehicles

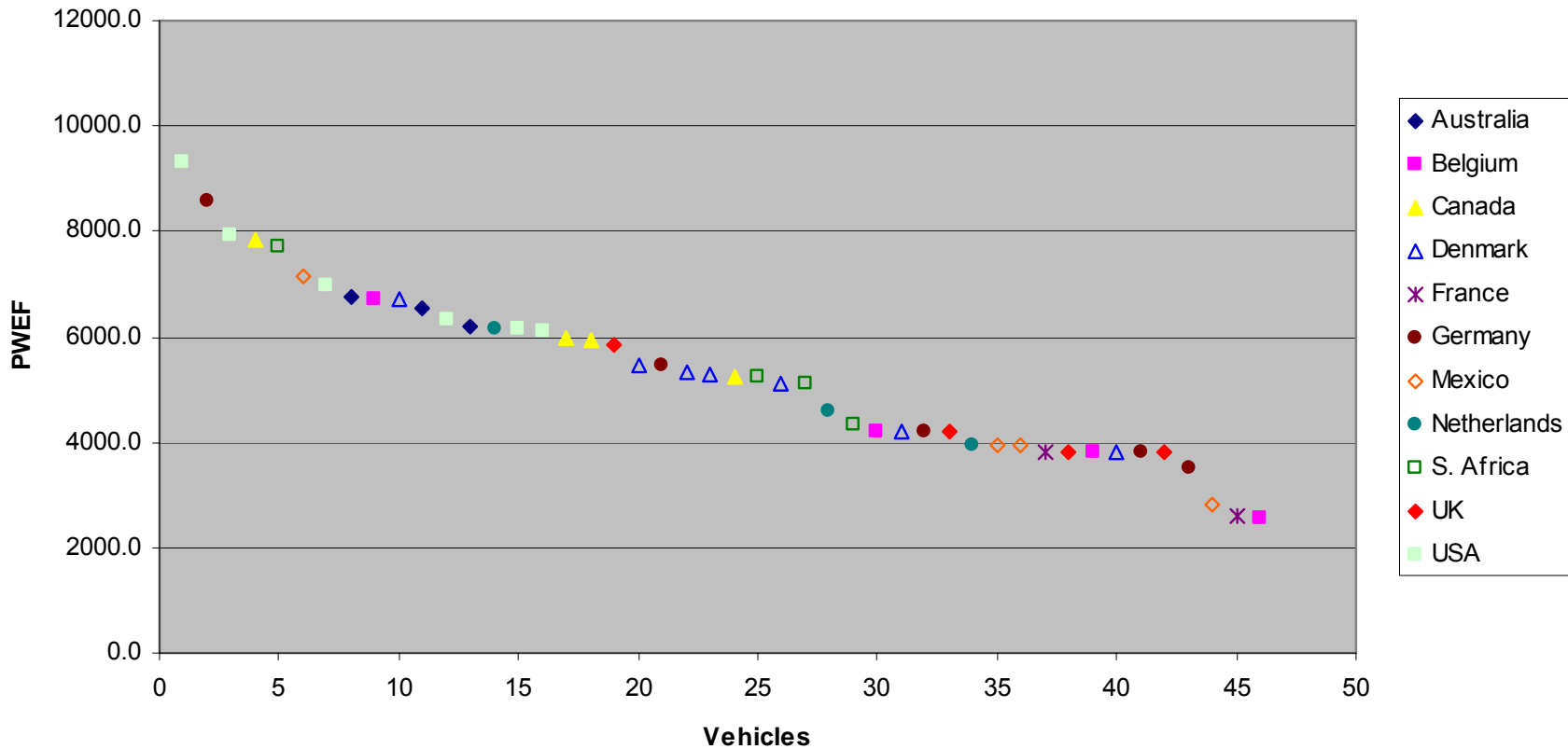
Payload Efficiency Factor (Cargo mass/Vehicle combination mass)



OECD project: International Benchmarking of vehicles i.t.o. road wear



Pavement Wear Efficiency Factor (Payload/ESAL)





THANK YOU