An Integrated Approach to the Regulation of Heavy Vehicles

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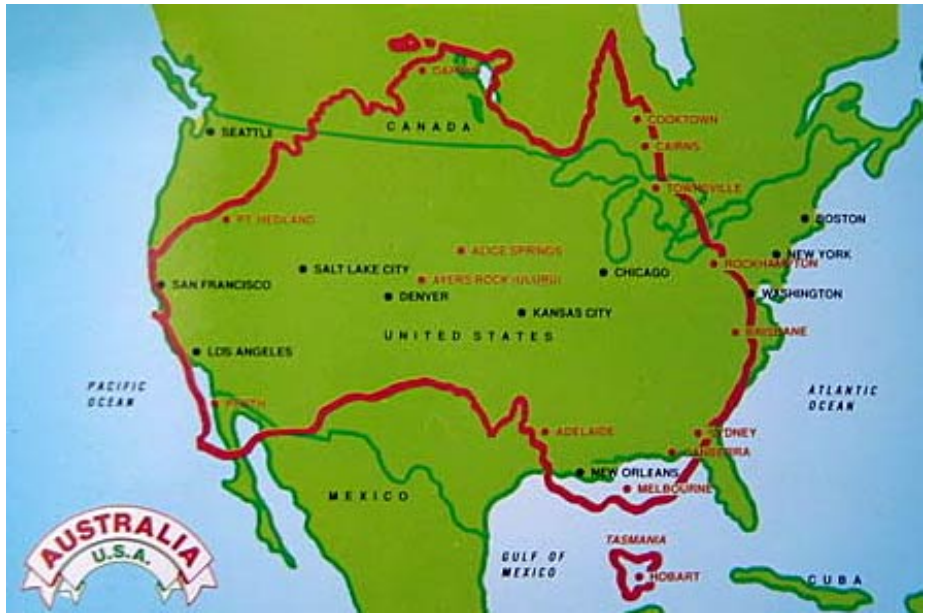
Outline

1. Australia: characteristics and freight needs
2. Community attitudes
3. Safety
4. Compliance
5. Performance-based standards
6. Road pricing
7. Strategy

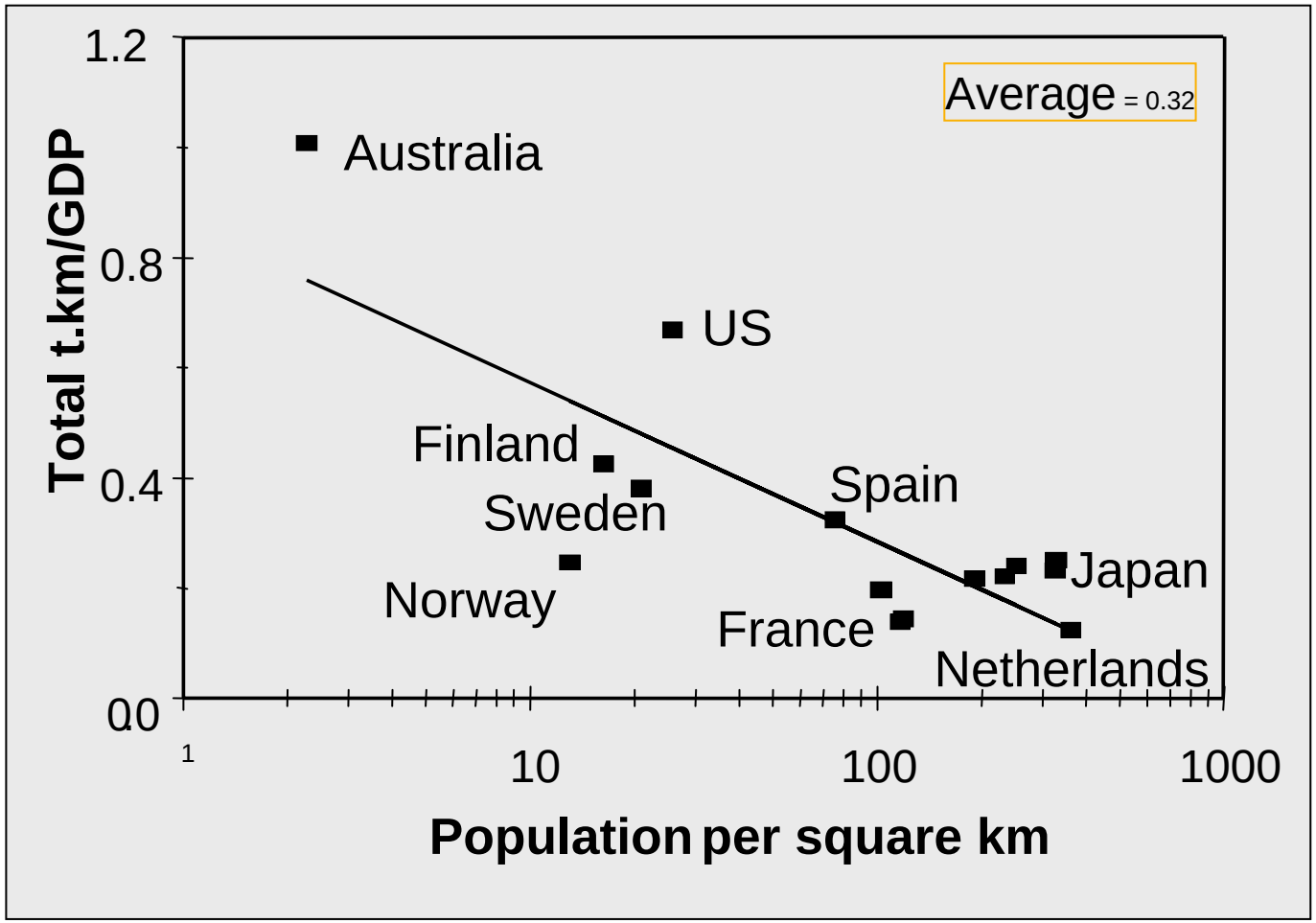
1. Australia: characteristics and freight needs

- **Large**
- **Sparsely populated**
- **Urbanised**
- **Transport-dependent**
- **Federation**
  - ➔ Most powers with states/territories
  - ➔ Process
    - NTC develops proposals with industry and agencies
    - Makes recommendations to Australian Transport Council
    - States, territories required to implement
    - Implementation problematic

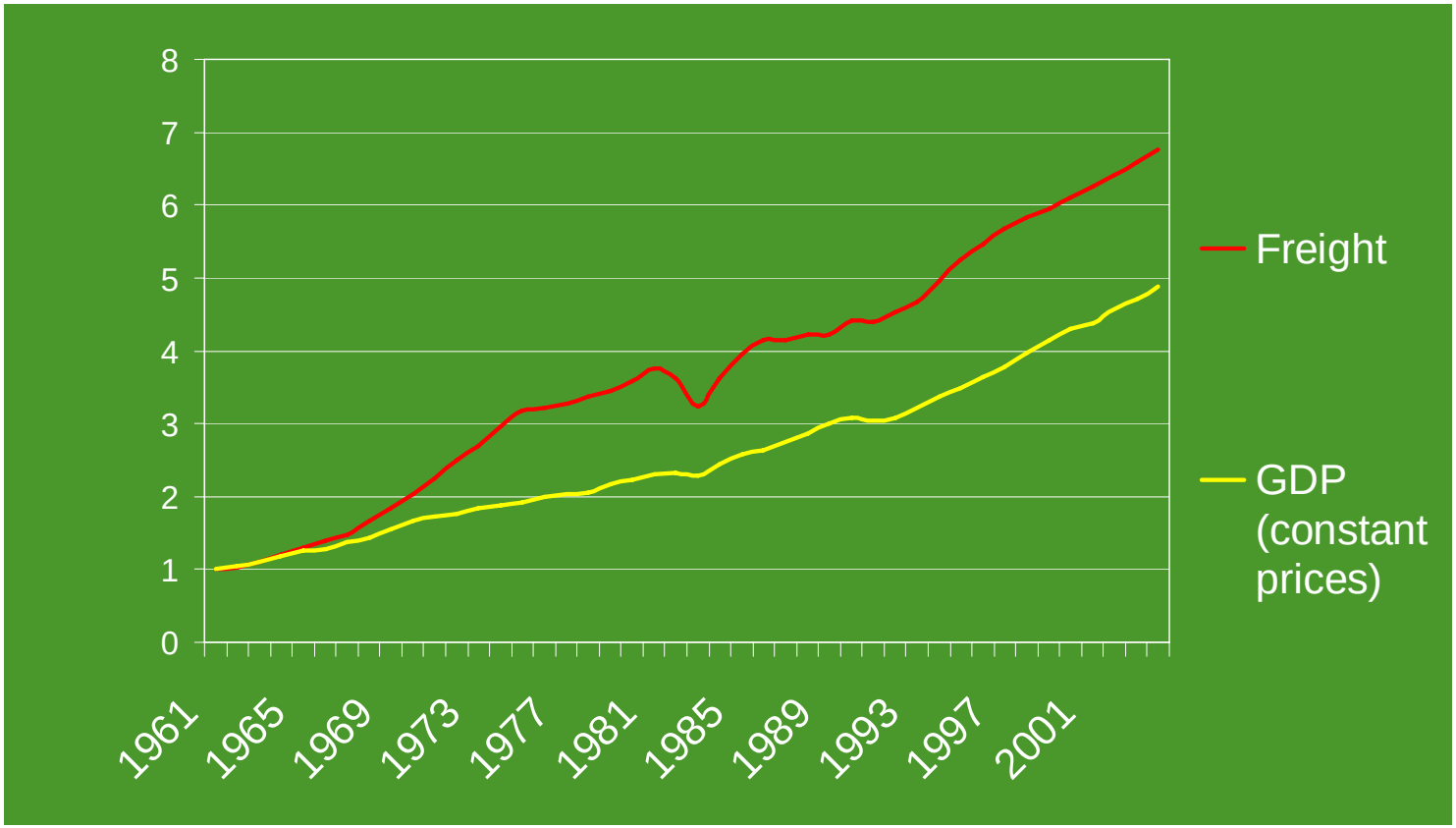

NORTH SEA
ATLANTIC OCEAN
DARWIN
BALTIC SEA
USSR
LITHUANIA
COOKTOWN
HOLLAND
BELGIUM
PT HEADLAND
GERMANY
CZECHOSLOVAKIA
TOWNSVILLE
BAY OF BISCAY
FRANCE
SWITZERLAND
AUSTRIA
ALICE SPRINGS
HUNGARY
ODESSA
AYERS ROCK
ROMANIA
ROCKHAMPTON
PORTUGAL
SPAIN
YUGOSLAVIA
BULGARIA
PERTH
BRISBANE
ITALY
ALBANIA
MEDITERRANEAN SEA
GREECE
MOROCCO
ALGERIA
ADELAIDE
SYDNEY
TUNISIA
MELBOURNE


CANADA
SEATTLE
COOKTOWN
CAIRNS
TOWNSVILLE
PT HEDLAND
ALICE SPRINGS
BOSTON
NEW YORK
SALT LAKE CITY
CHICAGO
ROCKHAMPTON
SAN FRANCISCO
AYERS ROCK (ULURU)
WASHINGTON
DENVER
KANSAS CITY
UNITED STATES
BRISBANE
LOS ANGELES
PACIFIC OCEAN
PERTH
ATLANTIC OCEAN
ADELAIDE
SYDNEY
CANBERRA
NEW ORLEANS
MELBOURNE
MEXICO
AUSTRALIA
U.S.A.
TASMANIA
GULF OF MEXICO
HOBART
CUBA

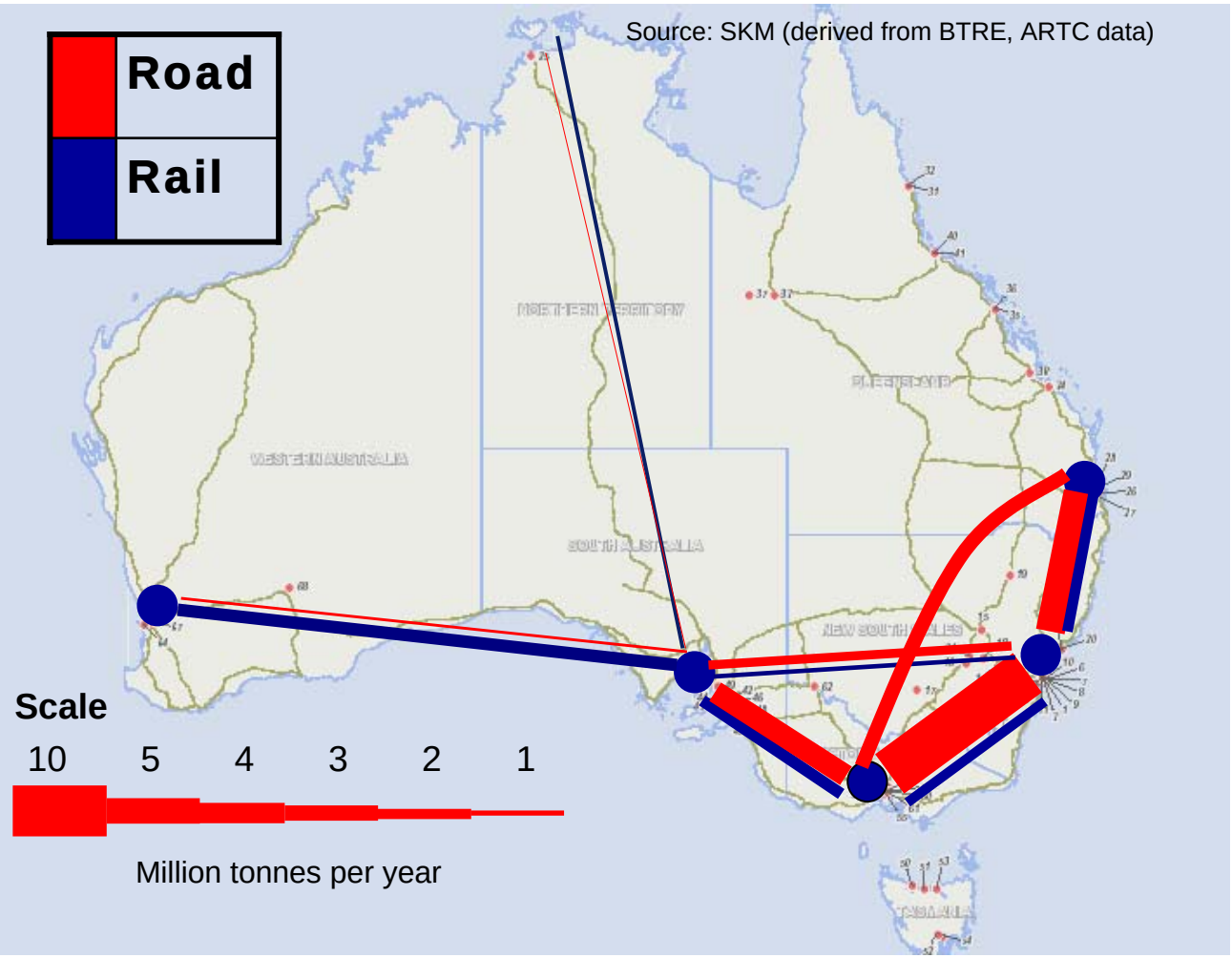
Australia's Transport Dependency



Freight and Economic Growth



Road / rail

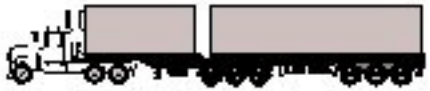


- only 9% freight task contestible
- rail infrastructure /service quality is biggest issue
- consistent pricing principles to optimise infrastructure investment

Industry

- Diverse
- Dominated by small operators
- No barriers to entry
- Service driven
- Shared workplace

Australian Heavy Vehicles

Vehicle Type		Maximum Length (m)	Maximum Gross Mass (t)	
			General Mass limits	Higher Mass Limits*
3-axle rigid truck		12.5	22.5	23.0
Truck and dog		19.0	50 (with jurisdictional variation)	
6-axle semi-trailer		19.0	42.5	45.5
9-axle B-Double		26.0	62.5	68.0
12-axle B-Triple		36.5	82.5	90.5
Double road train		36.5	79.0	85.0
Triple road train		53.5	115.5	124.5

The Future

- **“Hollowing out” of road fleet - increased use of heavier and lighter vehicles**
- **Community demands for**
  - ➔ amenity/quality of life
  - ➔ access
  - ➔ noise
  - ➔ air quality
- **Community concerns over heavy vehicles on roads**

Public Perceptions

B-DOUBLES (1988)

‘ROAD MONSTERS ARE HEADING OUR WAY!’

B-TRIPLES (2006)

‘OVERSIZED TRUCKS TO ENTER CITIES!’


THE AGE, Friday 1 July 1988

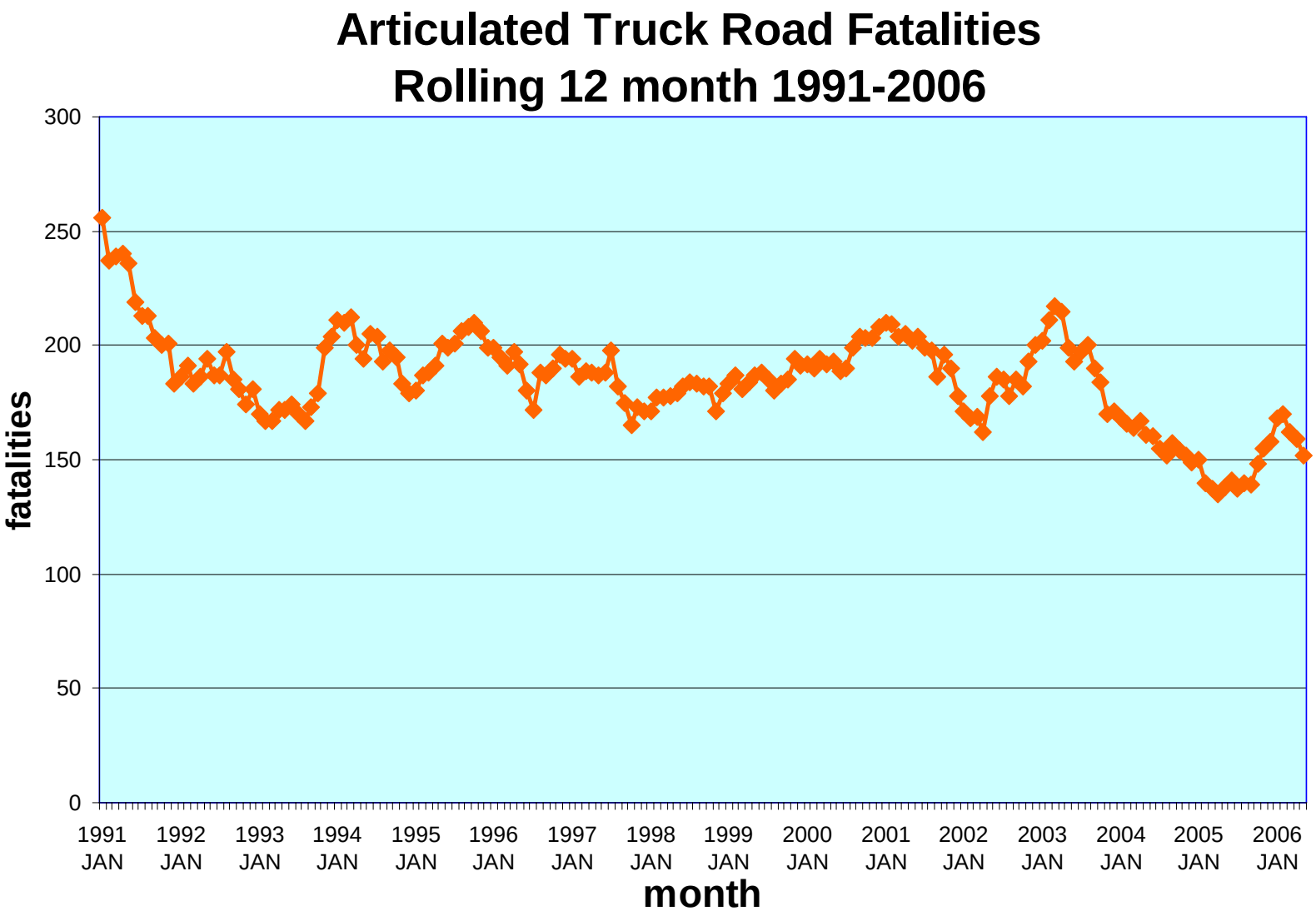
Road monsters are heading our way

Oversized trucks to enter cities

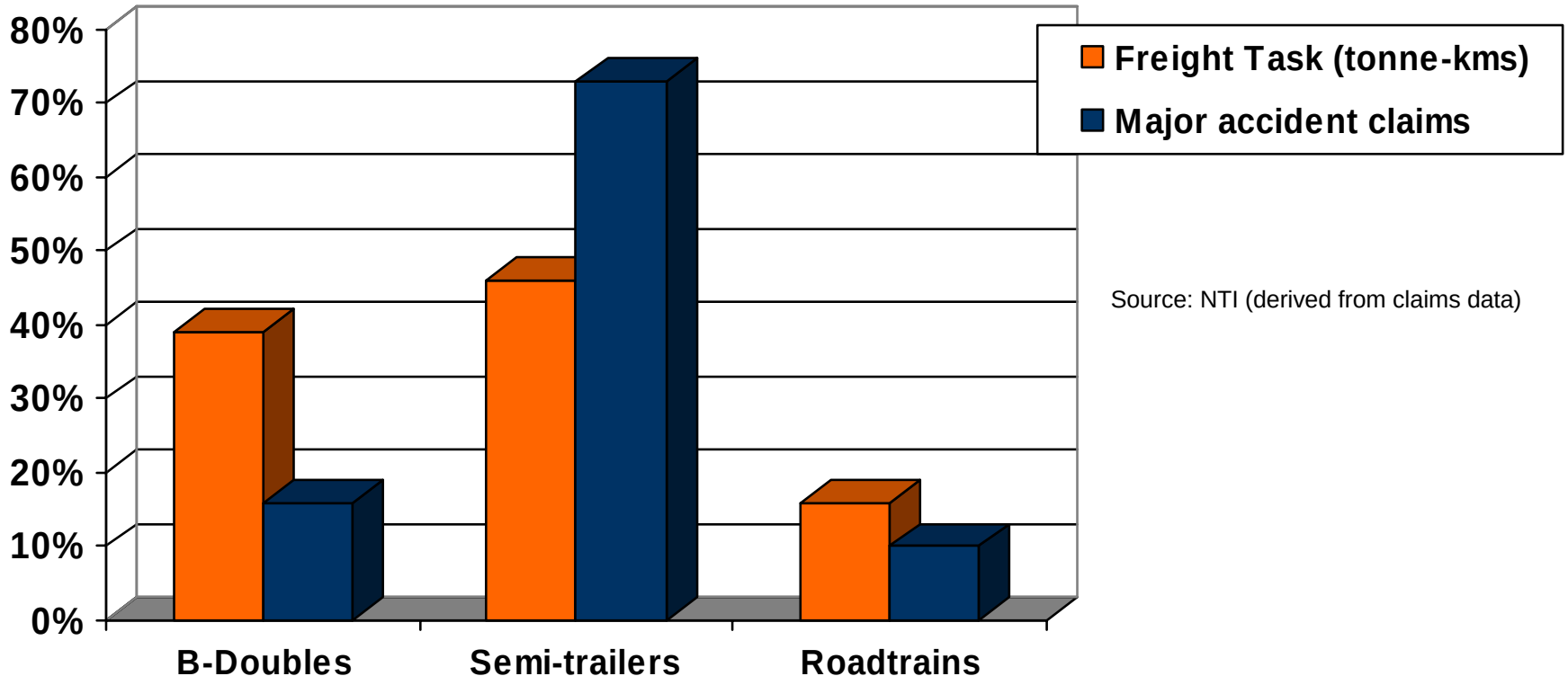
3. Safety

- **Fatal crashes 1990-2005**
  - ➔ Articulated down 34%
  - ➔ All vehicles down 28%
- **Heavy vehicles (over 4.5 tonne)**
  - ➔ Involved in 14% of fatal crashes
- **Articulated heavy vehicles**
  - ➔ 9.4% of fatal crashes
- **Rigid trucks**
  - ➔ 4.8% of fatal crashes

Safety Trend



B-Double Safety Record



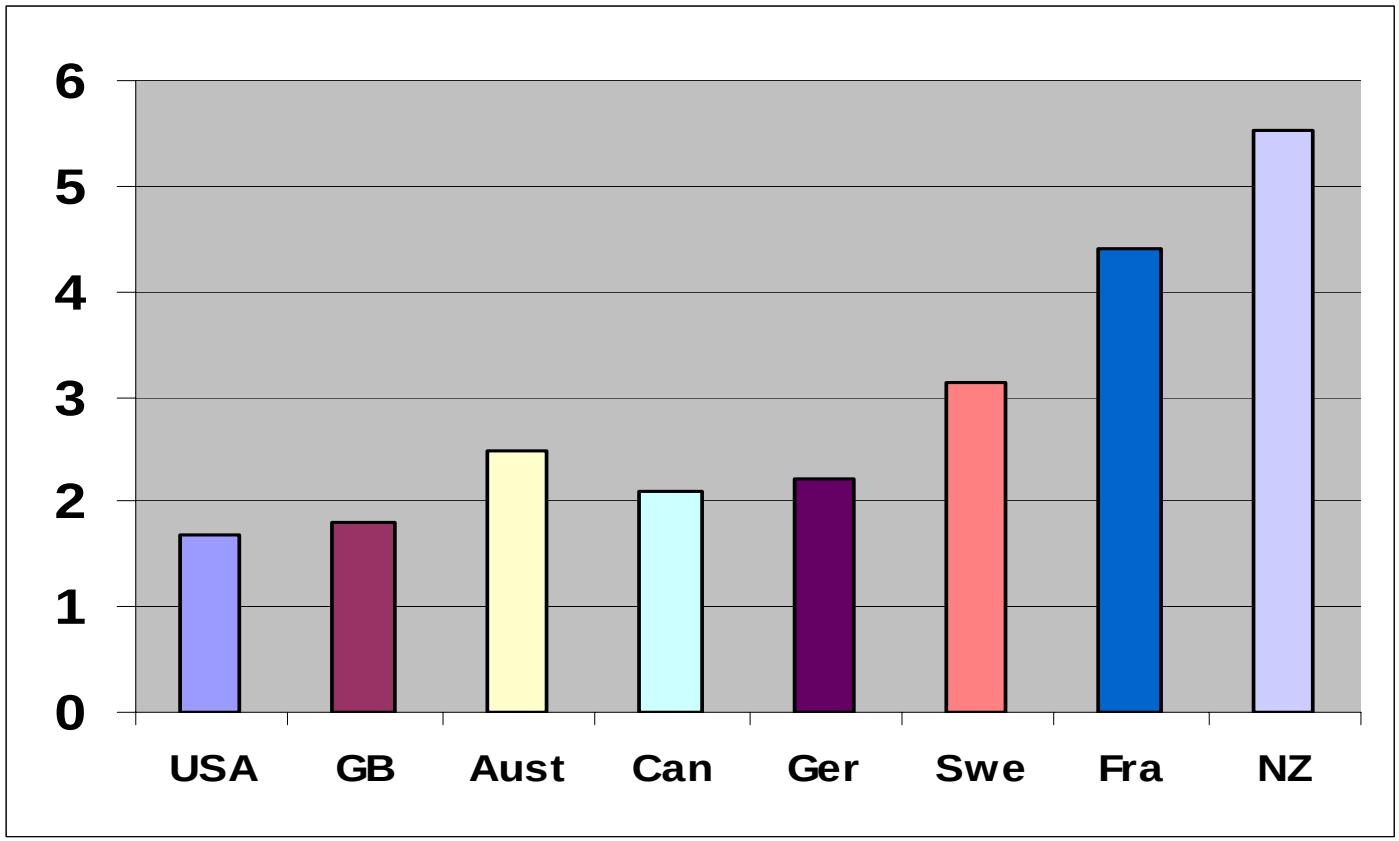
Source: NTI (derived from claims data)

Banning artics could increase truck vs car crashes 18% by 2010

Assumes continued improving trends in crash rates

(Source: MUARC 2007)

Benchmarking heavy vehicle safety report 2002



Heavy vehicle fatalities per 100 million km

Key Heavy Vehicle Safety Issues

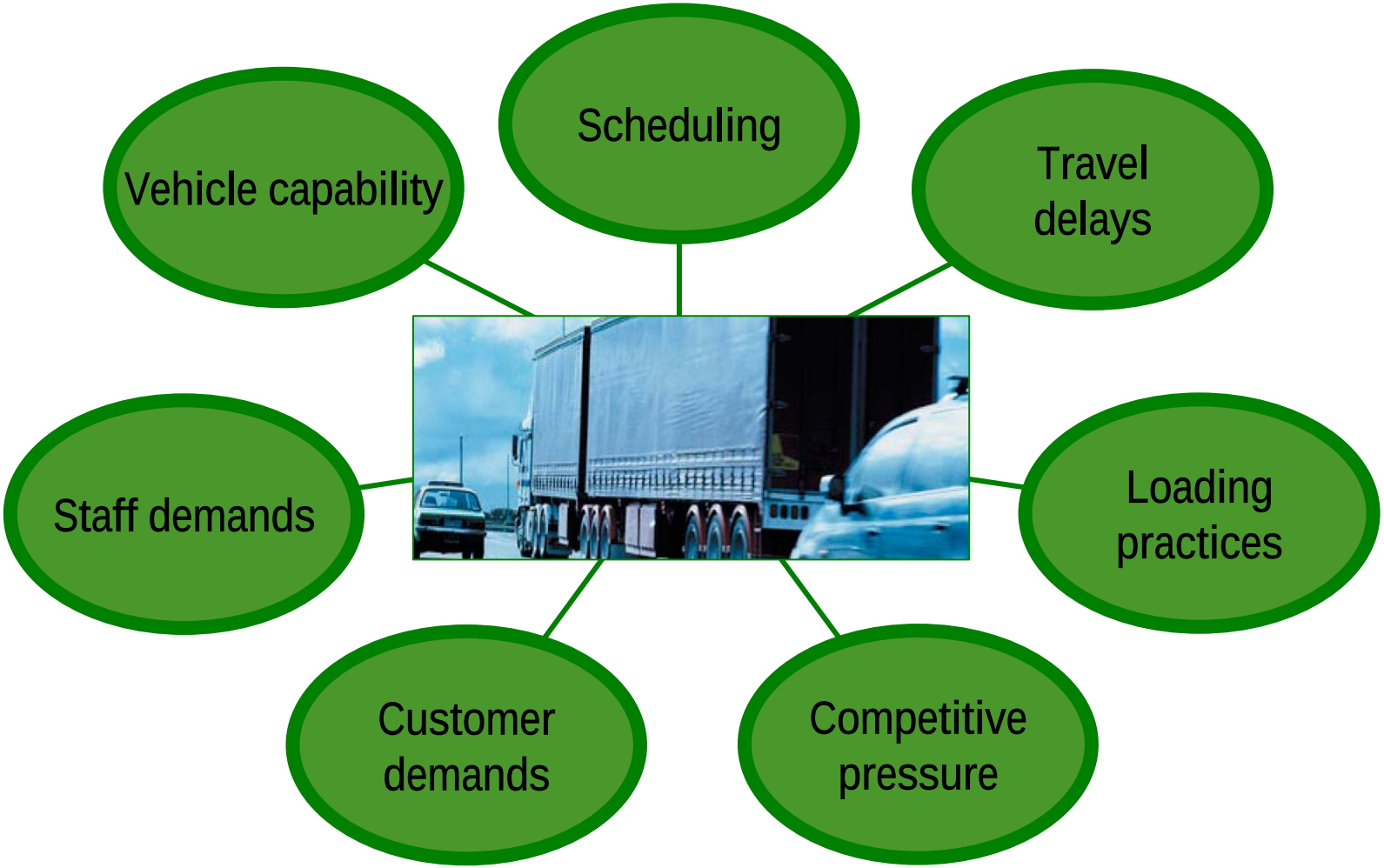
- Fatigue
- Speed
- Braking
- Vehicle condition
- Behavioural factors
- Systematic approaches

4. Compliance

Compliance and enforcement: past practice in Australia

- **On-road enforcement**
- **Focus on drivers**
  - ➔ sometimes owners/ operators
- **Limited range of penalties**
- **Little focus on patterns of behaviour**
- **No operator licensing**

What influences heavy vehicle compliance?



‘Chain of responsibility’

CONTROL =

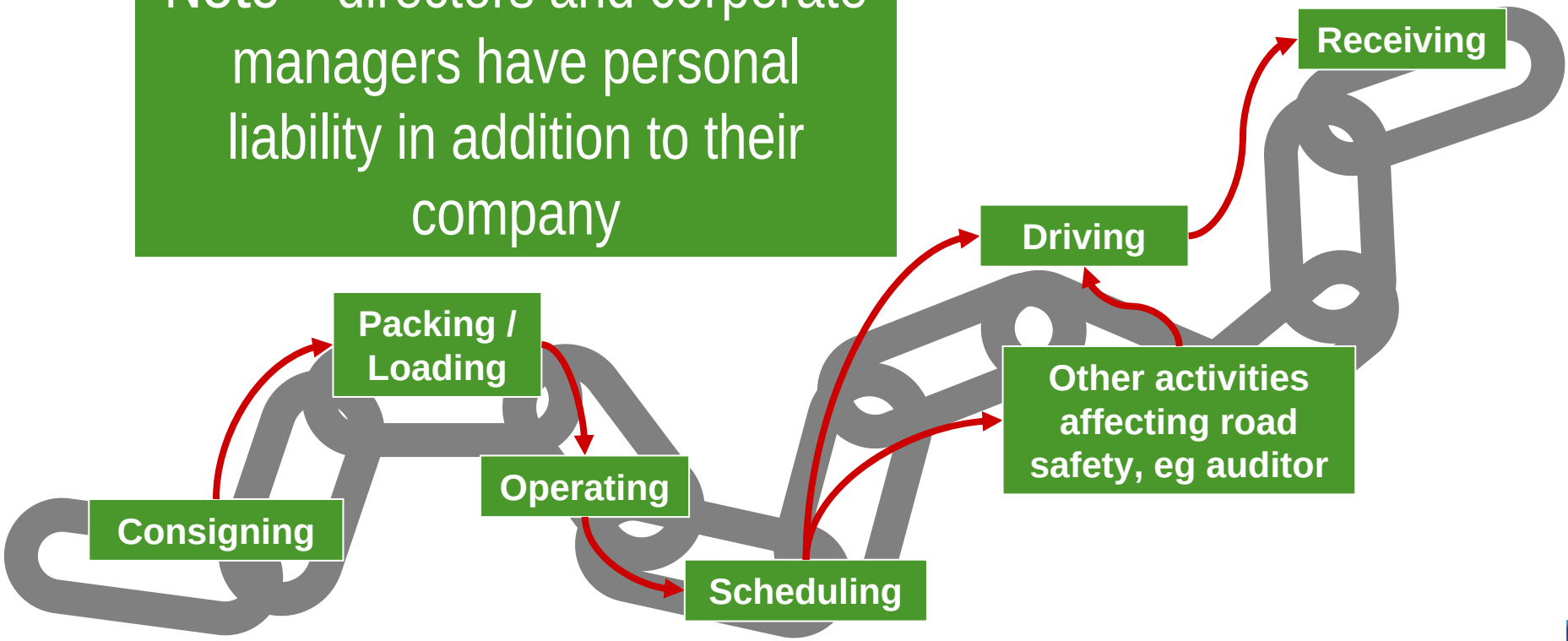
RESPONSIBILITY =

LEGAL LIABILITY

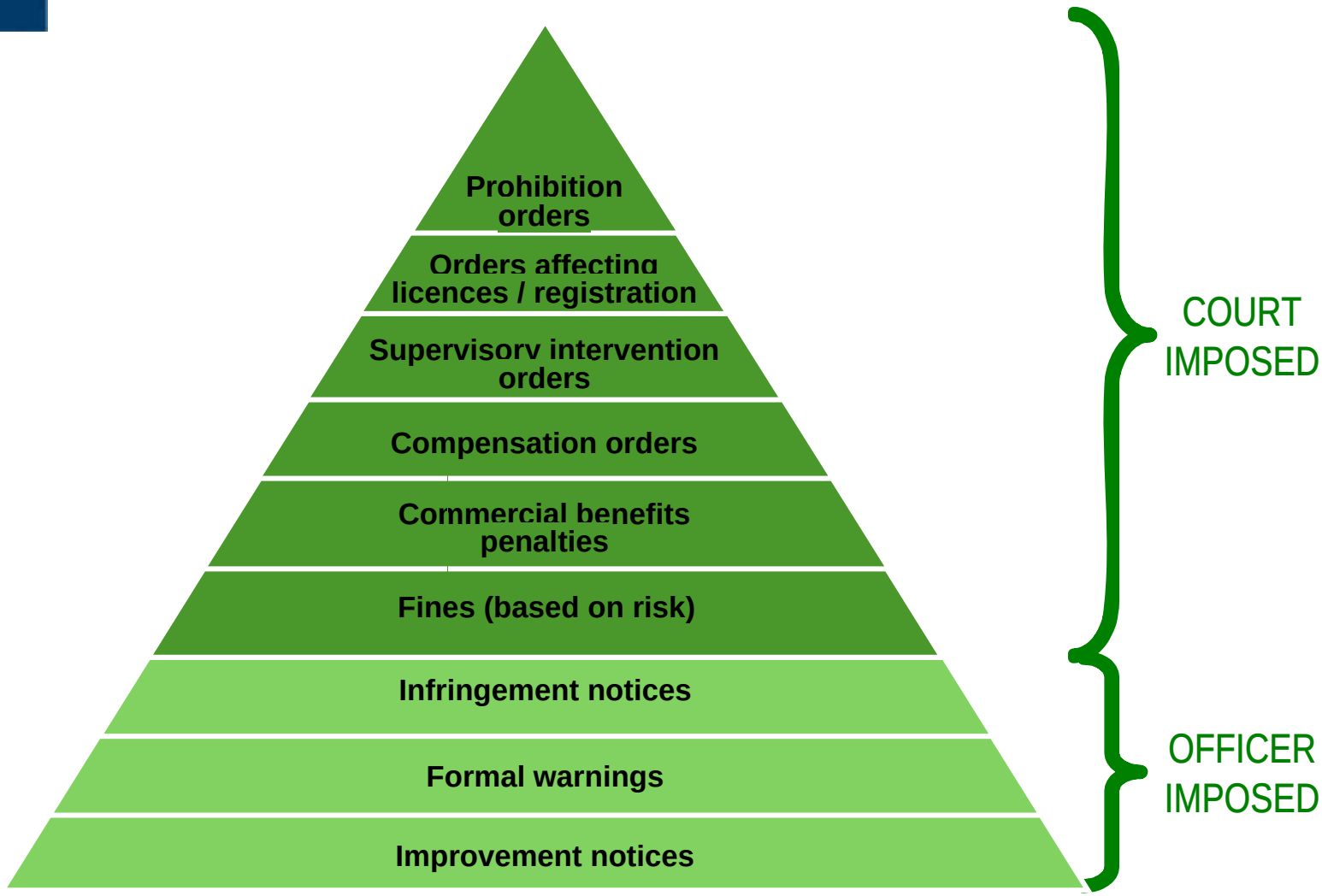
- **responsibility may overlap**
- **absolute liability for actions / inactions**
- **‘reasonable steps’ defence**
- **overlaps with OHS law**

What is the ‘chain of responsibility’?

Note – directors and corporate managers have personal liability in addition to their company

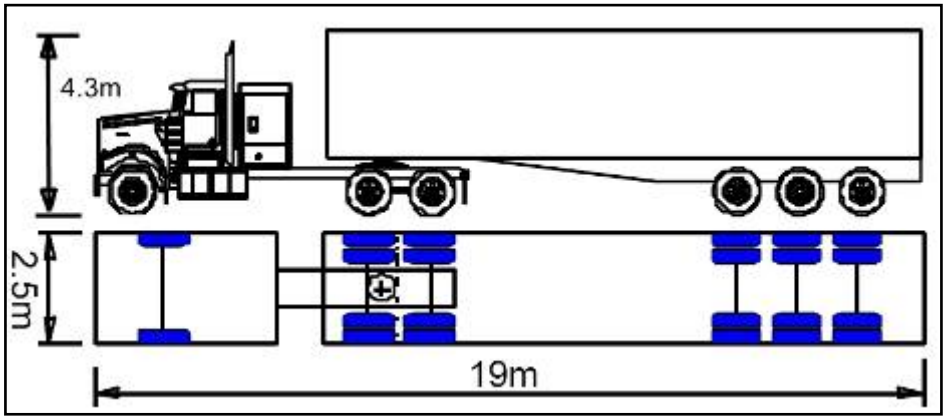


What are the possible penalties?

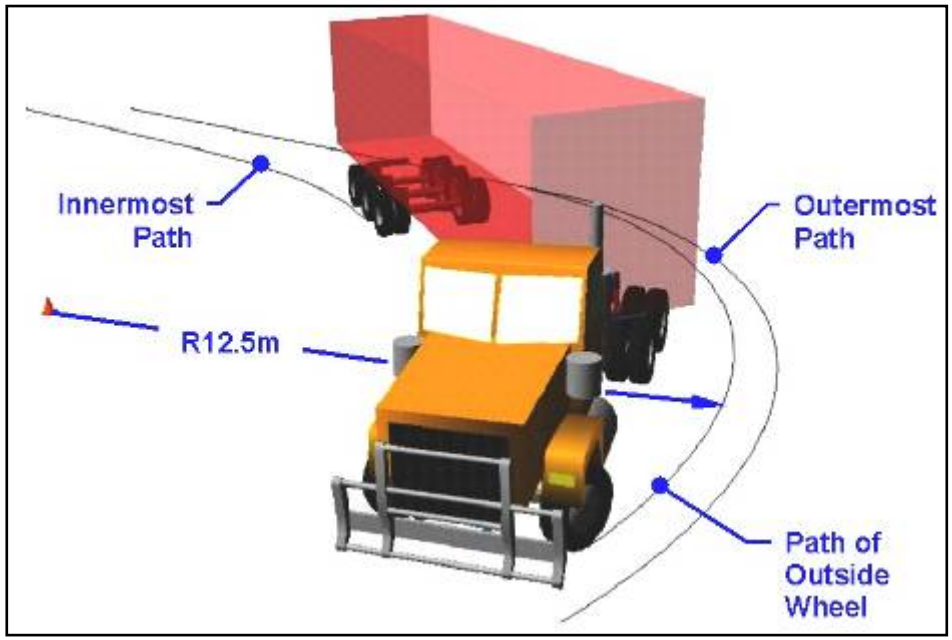


Compliance as an enabler

5. Performance-based Standards: More Flexible Vehicle Regulation

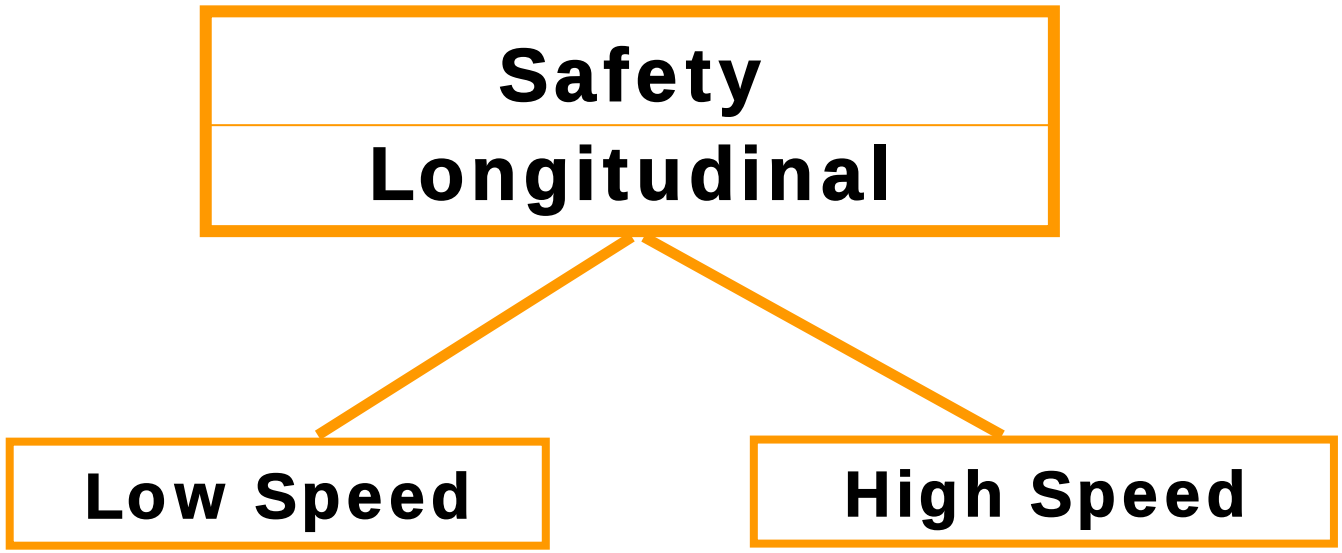


WHAT THE VEHICLE LOOKS LIKE



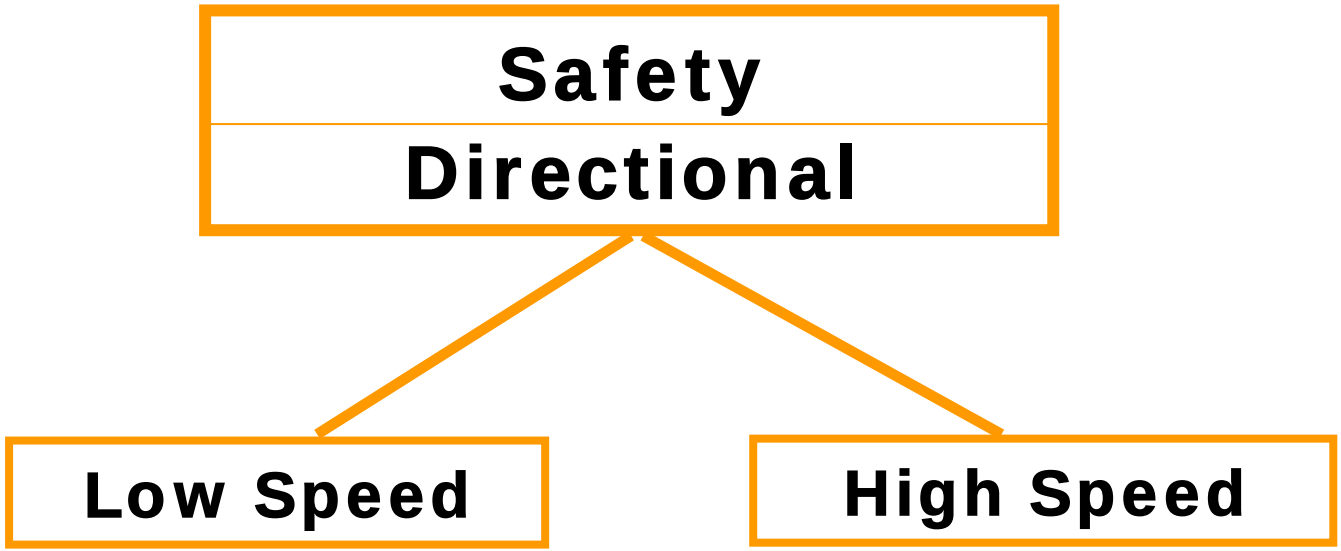
WHAT THE VEHICLE CAN DO

Performance Measures - Safety



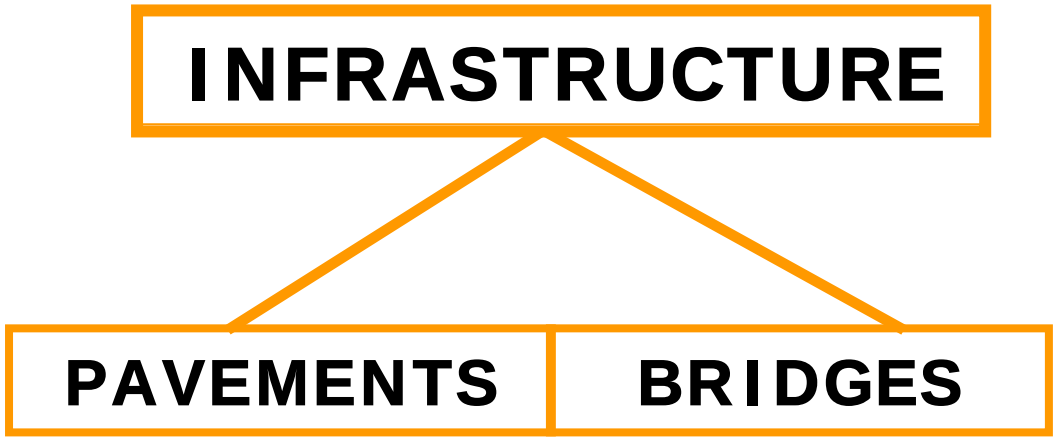
1. Startability
2. Gradeability
3. Acceleration Capability
4. Overtaking Time
5. Tracking Ability on a Straight Path
6. Ride Quality

Performance Measures - Safety



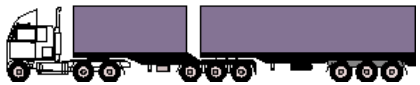
7. Low Speed Swept Path
8. Frontal Swing
9. Tail Swing
10. Steer Tyre Friction Demand
11. Static Rollover Threshold
12. Rearward Amplification
13. High Speed Transient Off-tracking
14. Yaw Damping
15. Handling Quality
16. Braking Stability

Performance Measures - Infrastructure



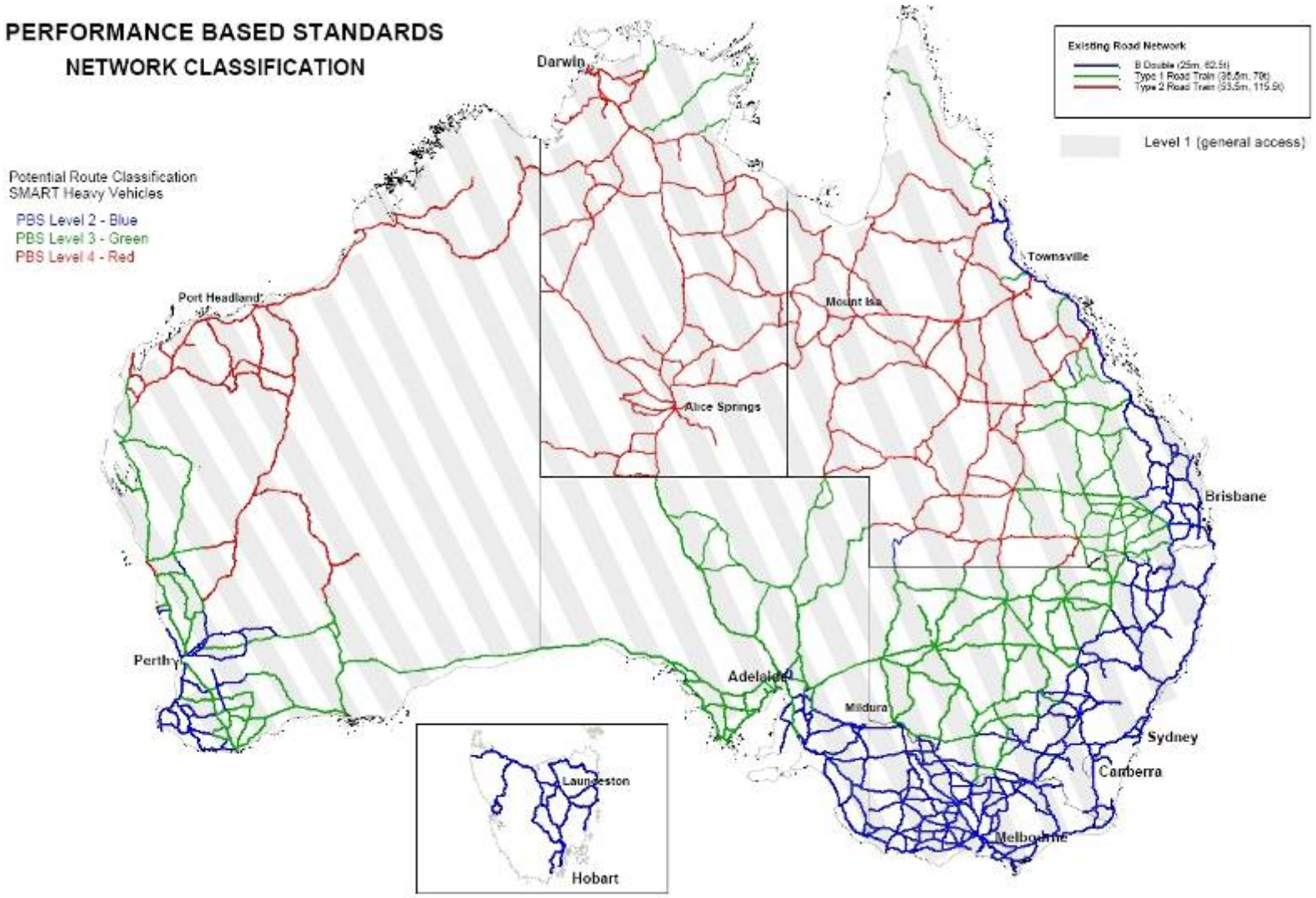
17. Pavement Vertical Loading
18. Pavement Horizontal Loading
19. Tyre Contact Pressure Distribution
20. Bridge Loading

Network Classification

EXISTING ROUTE		PBS ROAD CLASS
GENERAL ACCESS		LEVEL 1 ACCESS (L1)*
B-DOUBLE		LEVEL 2 ACCESS (L2)
TYPE 1 ROAD TRAINS		LEVEL 3 ACCESS (L3)
TYPE 2 ROAD TRAINS		LEVEL 4 ACCESS (L4)

**** L1 roads would become the default classification, subject to existing local constraints on general access heavy vehicles***

Network Classification



‘Blue Print’ Vehicles

Also considering

- Rigid truck
- Truck-trailer

Progress Report

- **Institutional arrangements**
  - ➔ ‘binding and effective decision-making arrangements’ difficult
  - ➔ jurisdictions retain right to refuse access
- **Network classification – work in progress**
- **Performance standards**
  - ➔ new infrastructure protection standards
  - ➔ revised safety standards
- **Pricing under review**

6. Pricing

Road Pricing in Australia

- **Light vehicles**
  - ➔ revenue based
- **Heavy vehicle charges**
  - ➔ based on full recovery of allocated road expenditure
  - ➔ externalities not included
  - ➔ no link to funding (mostly consolidated revenue)
    - fuel excise to Commonwealth Treasury
    - Registration charges to State/Territories
  - ➔ discontinuities with light vehicles
- **Isolated toll schemes**

Heavy vehicle pricing reform

better utilise the existing network

maximise efficiency

Road operators

using the right roads with right vehicles

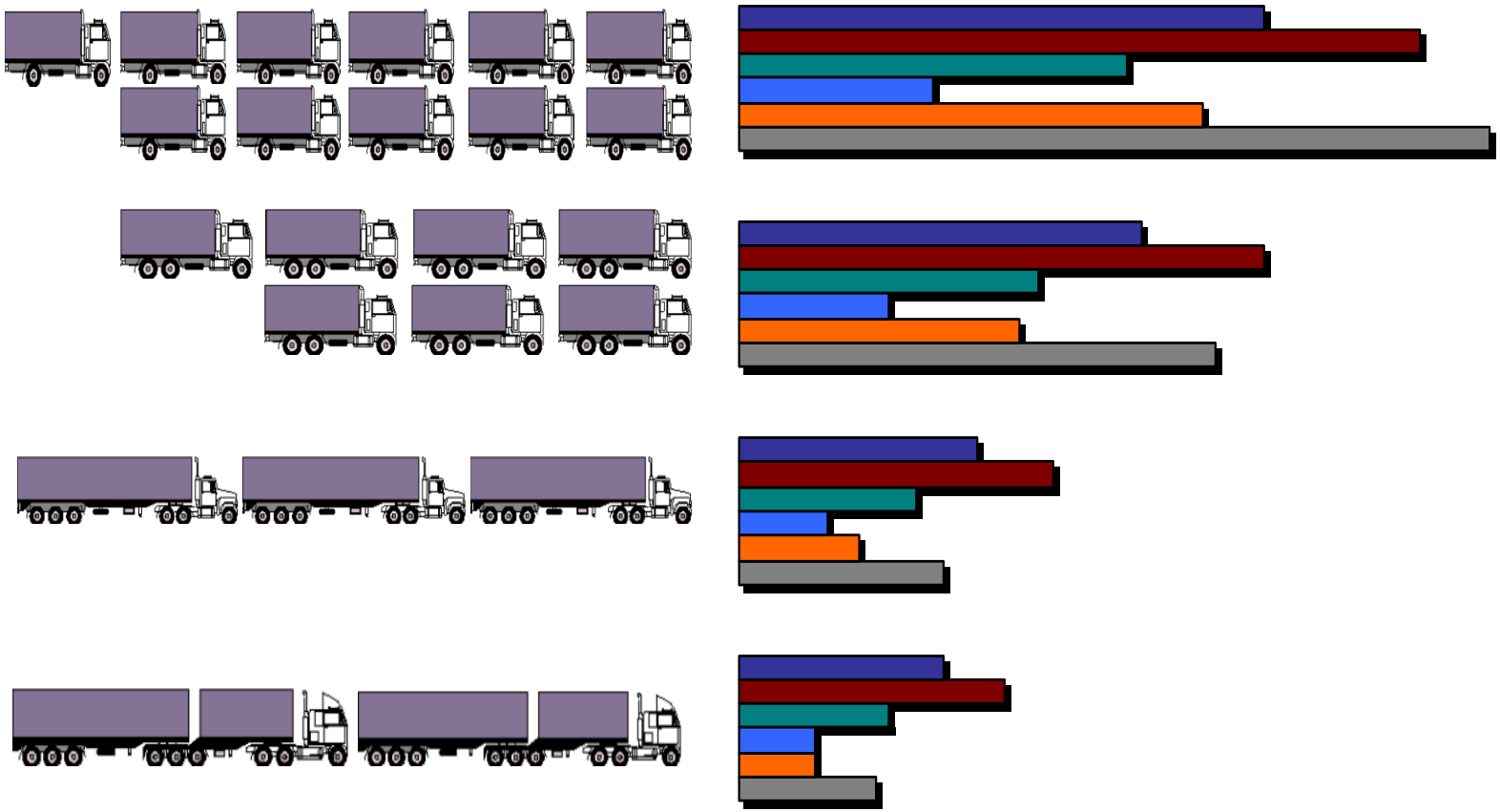
investment in right place at the right time

Road Agencies

cost of road use

demand for upgrades

7. Strategy: potential for regulatory changes in managing road use



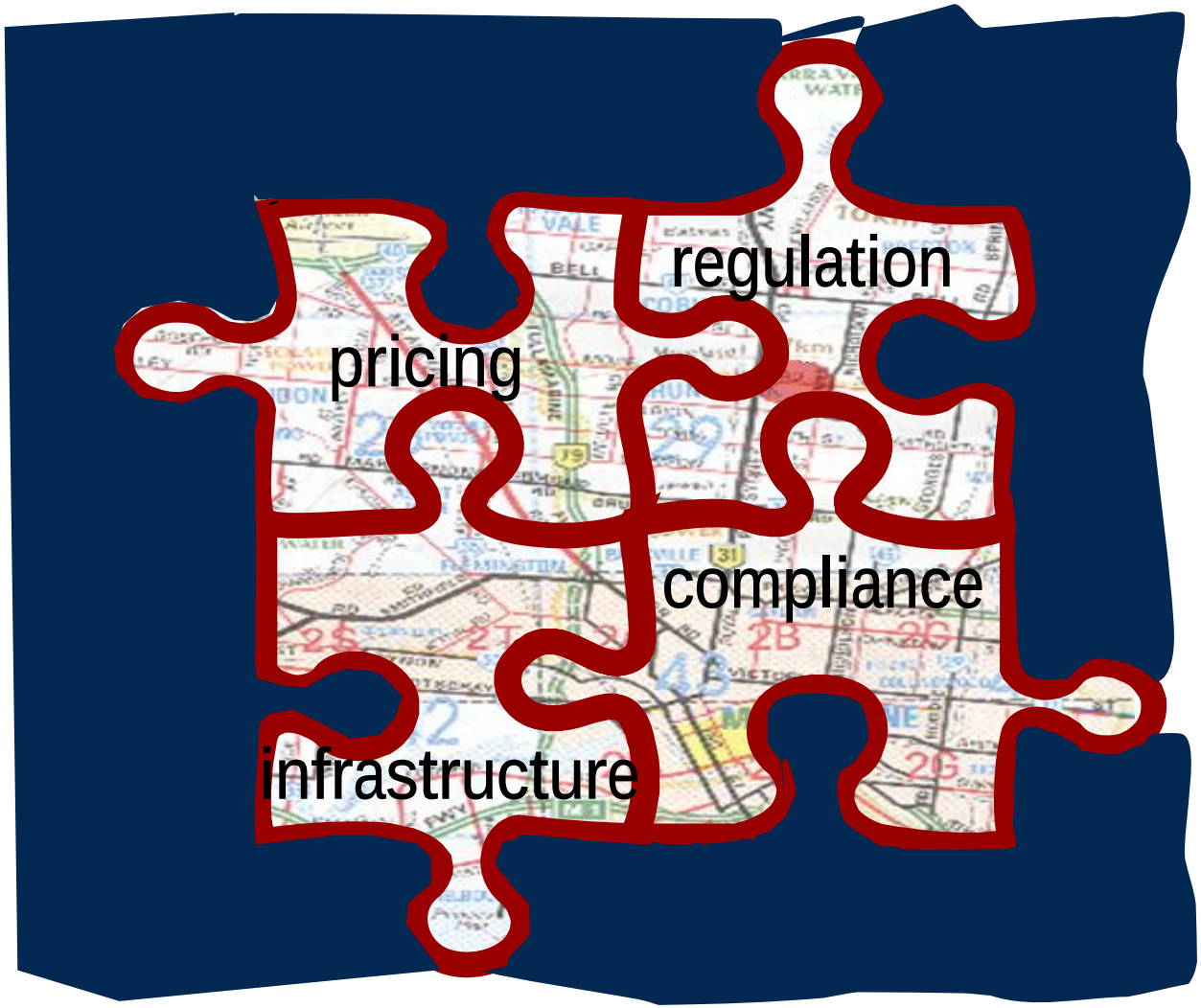
Drivers

- **Need for continuing productivity improvements to meet the freight task**
- **Need to meet community requirements for safety and amenity**
- **Need to ensure that road transport ‘pays its way’**
- **Need to shift regulation outside the prescriptive envelope**

The Vision

- **Standards based on safety outcomes and linked to infrastructure capability**

- **Differentiation of system access**
  - ➔ vehicle type
  - ➔ vehicle behaviour
  - ➔ time of day
  - ➔ etc
- **Pricing related to asset provision**
- **Effective compliance**
  - ➔ chain of responsibility
  - ➔ route compliance
  - ➔ driver training and selection
  - ➔ accreditation
  - ➔ intelligence-based enforcement
  - ➔ ITS


regulation
pricing
compliance
infrastructure

Thank you

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