



Doubling Energy Productivity in Freight Transport

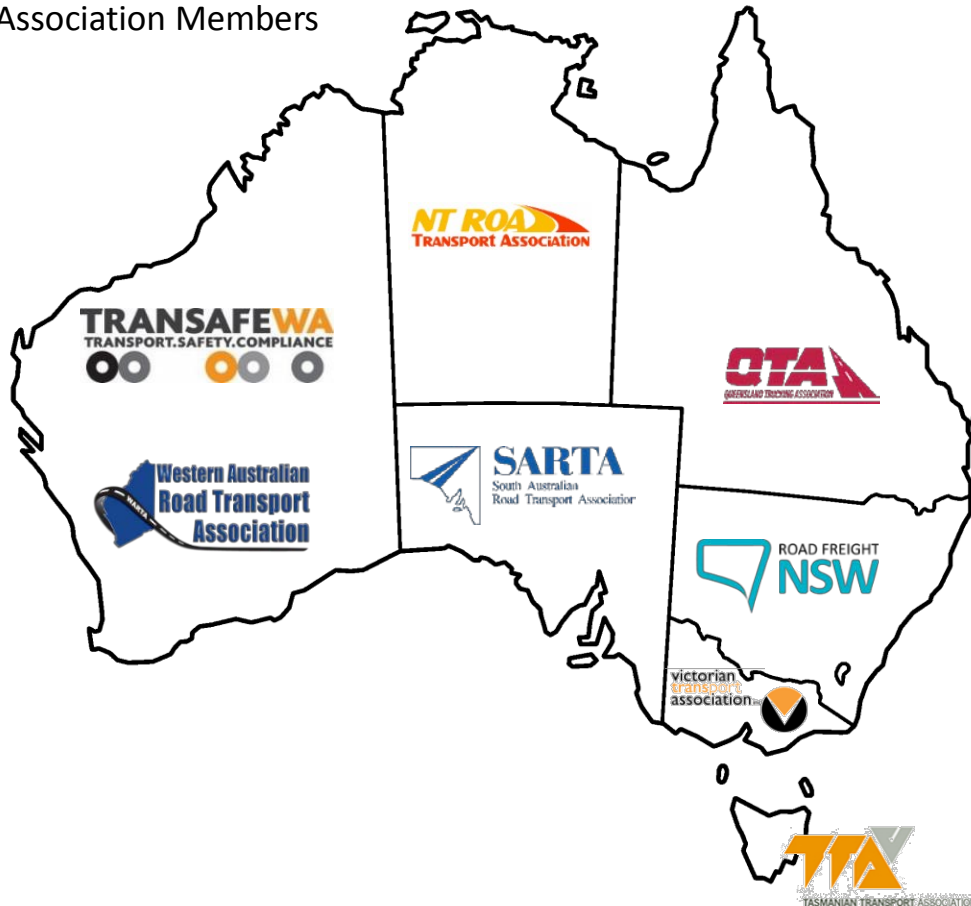
**Looking forward
20 years**

Ro Mueller
Senior Advisor, Road Safety and Productivity
Australian Trucking Association

About us – the ATA industry family



State Association Members



Sectoral Industry Members



Member Companies



Change in the freight industry

1880 – Cobb & Co.
coach pulled by four
or five horses carrying
mail, passengers, and
luggage.



1924 - mail trucks
replace Cobb &
Co. horse-drawn
mail coaches



1985 - Australia Post
introduces its own trucks
between capital cities and
country towns



2016

Change in the freight industry

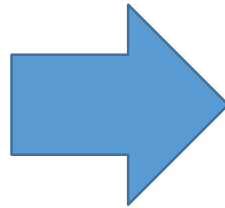


1940's and 1950's





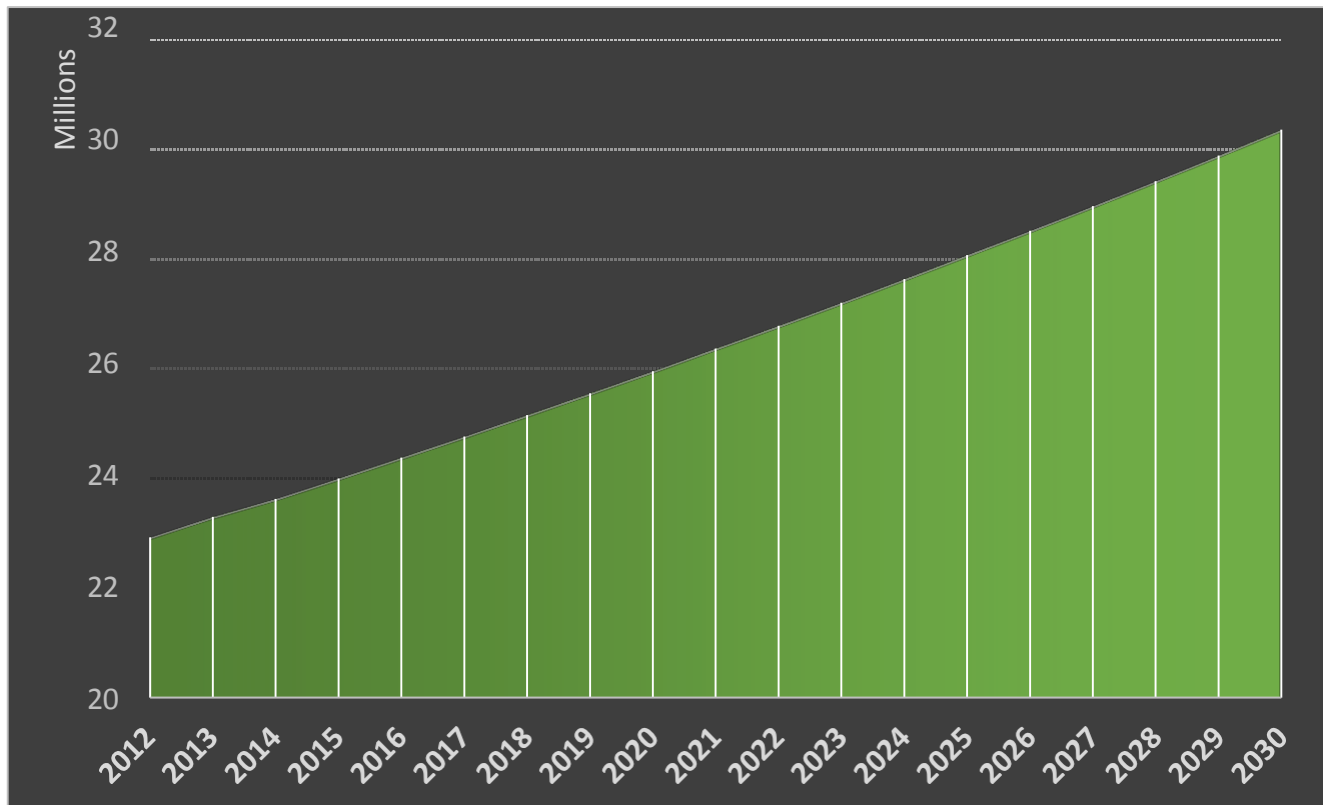
Modern
Freight Task



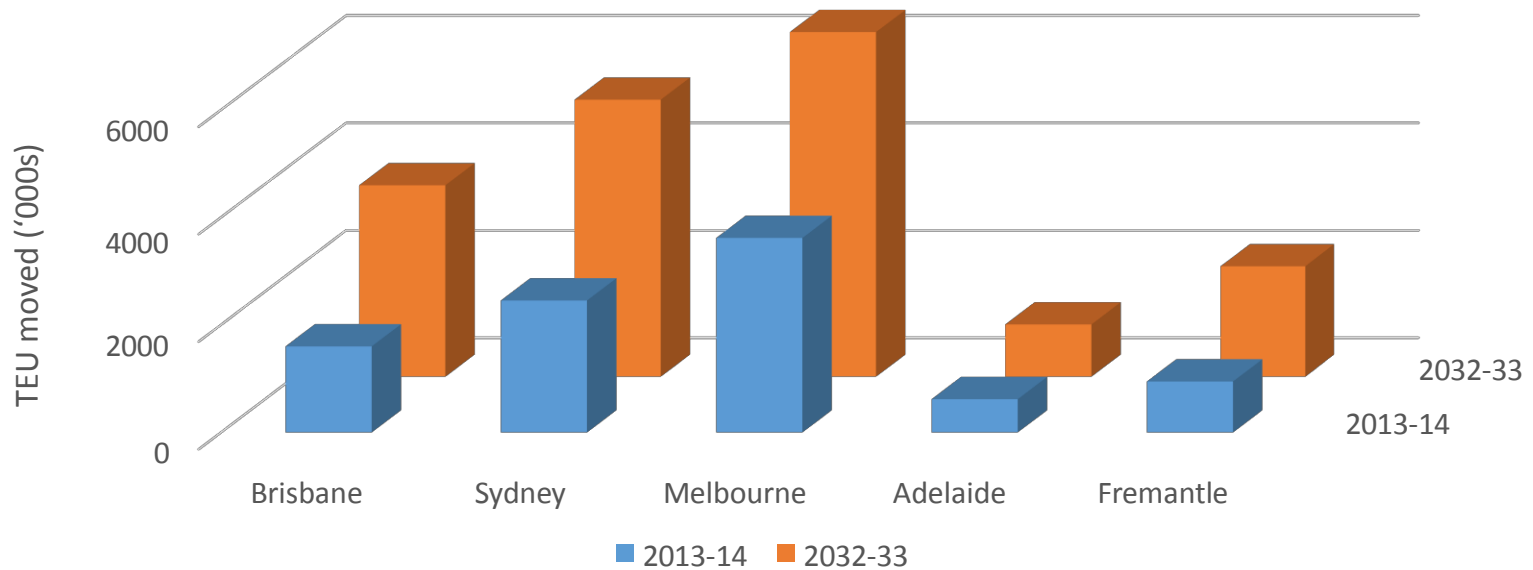
**To improve productivity, modern trucks need
access to better infrastructure and better
access to ports, rail heads and last mile roads**



Demand for freight - predicted Australian population growth

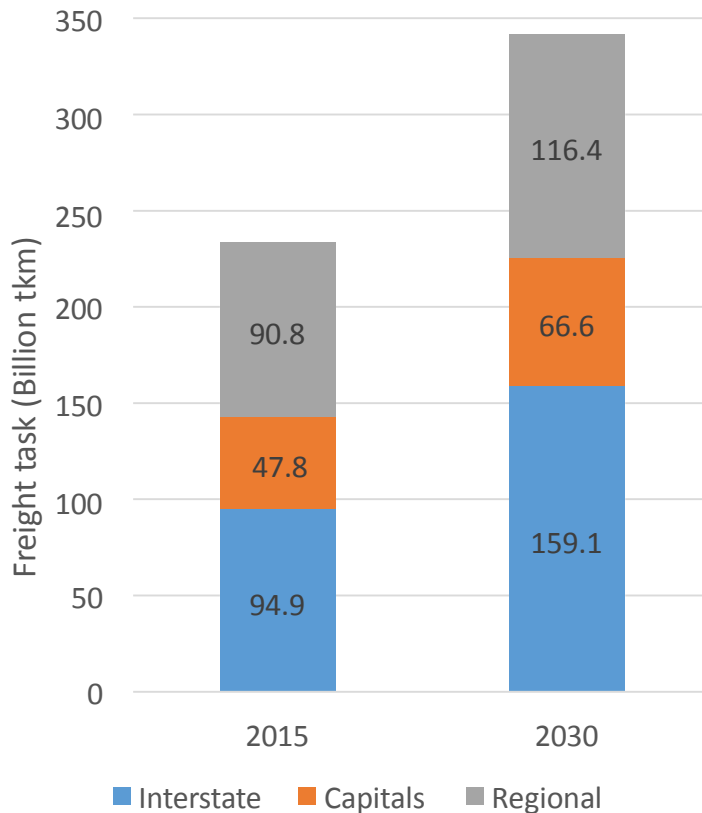


Supply of freight - port throughput



Australia's sea trade is growing – port throughput is predicted to double over the next 20 years.

Freight task growth



Australia's freight task is predicted to grow by **nearly 50% in the next 15-20 years.**

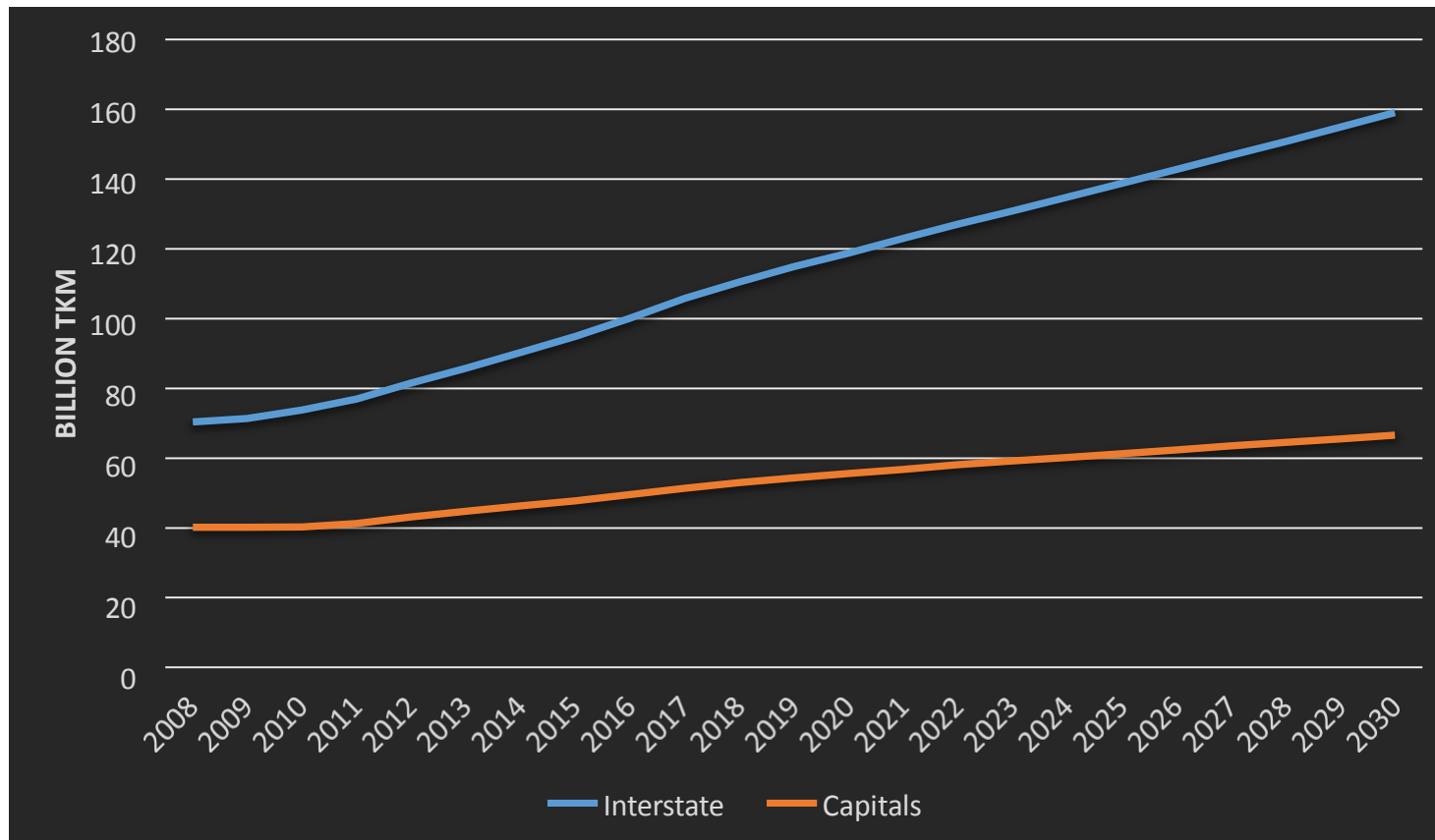
2015 = 233.5 billion tkm

2030 = 342.1 billion tkm

Sand, stone and gravel
was the most common commodity

i.e. about 23% of total tonnes moved
(2014, ABS cat. 9223.0)

Capital freight task growth



Picking up the freight task

Road transport accounts for approximately **78% of the non-bulk freight task** in Australia, compared with rail which carried only 15 per cent.

Around **90% of the rail freight task is used for bulk goods** such as mining and agricultural products.

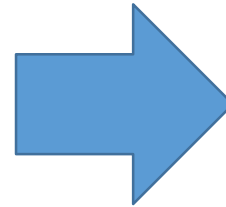
Road transport has some inherent advantages:

- Trucks are location flexible, providing faster, door-to-door customer deliveries.
- Higher road freight prices does not lift rail tonnage – very little ‘contestable’ freight
- Road user charges on trucks help recover costs of providing and maintaining roads



Modern
Freight Task

Modern
heavy vehicles



Hi-tech, more fuel-efficient,
safer, quieter and cleaner and
better maintained.



Higher Productivity Vehicles

- Design characteristics of modern combinations mean they're more stable than semi-trailers.
- Have the latest safety and performance technology such as emissions controls, ABS, EBS/TEBS, lane assist, roll stability, GPS-tracking, underrun protection and driver monitoring.
- Drivers are licensed at a higher standard (MC rather than HC).



Higher Productivity Vehicles

The alternative to more productive modern trucks such as the B-double is more and more smaller trucks, and therefore more road damage and an unacceptable increase in exposure risks.



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Higher Productivity Vehicles like these A-doubles also reduce the number of trucks on the road and thus the exposure risks.

Fuel use comparison



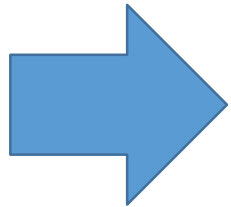
Truck Type	No. of trips per 1000 tonnes	Litres of fuel used to move 1000 tonnes 1000 kms
Two axle rigid	143	65,780
Three axle rigid	77	43,120
Six axle semi-trailer (GML)	42	39,480
Six axle semi-trailer (HML)	37	37,000
B-double	26	32,240
A-double	21	28,560
B-triple	20	27,200



Source: ATA Truck Impact Chart, June 2010

Modern
logistics

Modern
vehicles



**Better trained, more
professional drivers**

**Modern
drivers**



There are more than 60 factors affecting fuel economy in heavy freight vehicles.

These factors can be roughly split into two areas:

- a) Equipment design and maintenance
- b) Task economy

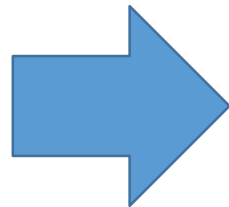
Better driving can deliver up to a 35% reduction in fuel consumption



Modern
Freight Task

Modern
vehicles

Modern
drivers



**Cost, Availability, Performance,
Engine issues**

**Modern
fuels**



CNG and LNG

Suitable for:

- smaller trucks
- inner city and back to base operations up to 800km

Impediments:

- availability of supply
- length and steer axle mass limits



In conclusion

- Use of alternative fuels is just one strategy for improving road transport EP
- Use will depend on cost, availability, performance and impact on engines
- Issues if it's left in truck engines
- More work needs to be done to develop next generation bio-fuels and to improve effects on engines



Thank You

A safe, professional and viable trucking industry.