

## Summary:

This project assessed the potential benefits to the Ron Finemore Transport (RFT) linehaul fleet of using Low Profile Tyres to reduce fuel consumption.

In 2008 RFT commenced trials of Low Profile Tyres. Analysis in conjunction with our tyre supplier quantified the actual fuel savings achieved at 5%. With RFT specialising in linehaul services between capital cities and in regional areas, Low Profile Tyres can be implemented to virtually all vehicles, with substantial fuel savings.

At the end of the 2011-12 financial year, Low Profile Tyres have now been implemented fleet-wide.

## Low Profile Tyres:

Innovations in complex rubber compounds, casing construction and tread design have led to the development of modern low rolling resistance tyres (Low Profile Tyres) that can increase truck fuel economy. The rolling resistance of a tyre is the amount of energy required to get a tyre moving and to keep it moving. If the amount of rolling resistance can be reduced, the amount of fuel required to move a vehicle will also be reduced. A number of real-world trials indicate a likely range of fuel savings of 4% to 13% for heavy vehicles. They are particularly suited to long-haul applications, allowing for reduced resistance when driving at higher speeds. By using low rolling resistance tyres, a combination long-haul truck could save over 2,200 litres of fuel per year.

- Source: Department of Resources Energy & Tourism's *Energy Efficiency Exchange* website

## Project Objective:

Determine the value in implementing Low Profile Tyres throughout the entire heavy vehicle fleet, based on the results of tyre trials which quantified fuel savings and improved re-treadability to extend tyre life.

**FUEL CONSUMPTION REDUCTION**  
Very low rolling resistance performance from Michelin ENERGY technology applied to rubber compound and casing construction. At least 3% fuel cost reduction at nominal conditions vs standard radial tyres.

**HIGH MILEAGE PERFORMANCE**  
• Specific rubber for long distance and regional conditions.  
• Pattern with double wave sipes limiting tread block movements inside the contact patch, maintaining optimal rigidity to reduce wear and increase mileage.

**HIGH SAFETY THANKS TO HIGH LONGITUDINAL AND TRANSVERSAL WET GRIP PERFORMANCE**  
Michelin Durable Technologies Pattern with full depth "double wave sipes", bringing long lasting grip throughout entire tyre life and under polyvalent usage, all year long and in all seasons.

Pattern when new      Pattern at 50% worn level

## Methodology:

In 2008 Ron Finemore Transport tested new technology Low Profile Tyres in a number of linehaul vehicles in different operating tasks to evaluate performance against standard tyre products.

The trials found that by changing to Michelin low profile 275/80R22.5 tyres from the traditional 295/80R22.5 / 11R22.5 setup, average fuel consumption savings of 5% were realised. Further, Michelin 275/80R22.5 tyres can be re-capped 3 times, while standard tyres can be re-capped twice.

Low Profile Tyres were found to have broad application across the whole fleet. With Ron Finemore Transport being a regional transport specialist operating high productivity B-Double equipment on linehaul routes throughout the Eastern States of Australia, Low Profile Tyres are suitable in nearly all RFT applications.

Average benefits per vehicle are calculated on annual total fleet kilometres travelled, total fuel use, average tyre life and the average diesel fuel price in the 2011-12 year.

The higher purchase cost of Low Profile Tyres and the higher operating costs of re-capping and replacement needed over a three year period were reconciled back to an annual operating cost for both tyre types.

## Results:

Ron Finemore Transport's focus on long distance linehaul transport services means its vehicles travel relatively high annual distances. This produces in a higher level of fuel consumption savings than DRET projected.

Annual benefits for a typical RFT vehicle are estimated to be:

- Fuel consumption savings: 7,137 litres
- Energy savings: 275 gigajoules
- Greenhouse gas emissions savings: 19.3 tonnes CO<sub>2</sub>-e

Low Profile Tyres provide an attractive, timely pay back on the extra investment required.

## Conclusion:

The cost savings from lower fuel consumption achieved by fitting Low Profile Tyres to RFT vehicles far outweigh the extra tyre purchase and operating costs.

Low Profile Tyres have now been implemented throughout the Ron Finemore Transport fleet of over 160 prime movers and trailer combinations.