Case Studies:

Ecodriving

Overview

Practising ecodriving will lower your fuel use, emissions, and vehicle running costs. The following studies reveal what can be achieved, with idling-reduction in particular gaining attention. Some other examples of enhancing vehicle operation efficiency are also included.

Programs

A Green Truck Partnership study from Melbourne produced evidence of an 8% fuel cost saving for the operation of a prime mover in urban haul applications, thanks to driver training. A similar fuel consumption benefit was achieved through training drivers of local pick-up and delivery vehicles in Melbourne and Sydney.

Transport Canada oversaw the introduction of a driver training program which achieved a fuel consumption reduction of almost 190 000 litres in 3 years.

Britain's Freight Best Practice driver training brought about a 4.3% reduction in diesel use for a bulk gas haulage firm, with further savings obtained through aerodynamic assessment. Also documented is the experience of a UK food distributor UK that implemented a fuel management programme based around fuel monitoring and introducing key driver performance indicators on vehicle use. In two years they saw a fuel efficiency improvement of over 6.5%.

The Safe and Fuel Efficient Driving (SAFED) training program was developed by the UK Department for Transport to enable training within the road freight industry. A selection of examples highlights the benefits to fuel efficiency, vehicle maintenance, and associated financial gains. Improved OHS&W was also a positive.

Queensland's RAA-affiliate motoring body, the RACQ, undertook a comprehensive ecodrive research study in 2012. It assessed the benefits to fuel usage of various levels of driver training, from a one hour on-line module to workshops and in-car training. In all cases, fuel use was reduced by at least 4%.

The Eltis - Urban Mobility Portal provides an example of a European logistics firm with a fleet of over 500 vehicles that embarked on a driver training and rewards program. In the 6 month period following training, about 112 litres of fuel was saved per driver, per month.

In Slovenia, a waste collection company achieved and average 4.2% decrease in fuel consumption through driver training, across seventy municipal vehicles and mobile machinery.

In Sweden, the Malmo Lorry Centre implemented a driver training package incorporating ecodriving that achieved an average decrease in fuel consumption of 16% and reduction of 633 tons of CO_2 emissions. OHS&W benefits were also realised.

A Swedish hospital employee ecodriving program focussing on economical driving, traffic safety and driver ergonomics delivered fuel savings of 4.7% across dedicated transport employees, and 7% amongst non-transport dedicated employees

Further information:
Email: DPTI.LowEmissionVehicles@sa.gov.au
Web: www.lowemissionvehicles.sa.gov.au

Government of South Australia
Department of Planning, Transport and Infrastructure

Idling

In a joint trial with Toll-IPEC that measured a cut in idling by 3 hours per week, the Western Australian Government demonstrated that companies can save, per vehicle, per year, 200L of fuel and $300 worth of diesel.

In the US, heavy vehicle idling is recognised as a major contributor to energy consumption. The US EPA's Smartway program has detailed the benefits of idle-reduction technologies in this report, which points to a 50-80 % reduction in idling fuel consumption.

The City of Denver (US) demonstrated through anti-idling practices, that miles per gallon could be improved by more than 50% if idling is cut in half.

A collection of studies from the UK's Freight Best Practice demonstrated how drivers can achieve up to a 5% improvement in total fuel efficiency by turning off idling engines where it is safe to do so.

Aerodynamics

Through the Green Truck Partnership, it was shown across Sydney and Melbourne that the installation of aerodynamic canopies on local pick-up and delivery vehicles can produce a 3% benefit across the board for fuel use, emissions reduction, and dollars saved.

The Canadian Government has assessed a different aerodynamic concept, that of trailer fairings (under trailer 'air spoilers'). It found truck fuel consumption can be reduced by over 6% through utilising this type of modification.

Miscellaneous

When a truck trailer is unloaded or lightly loaded there is an opportunity to lift one of the axles from the road, resulting in a reduction in rolling resistance and a potential reduction in fuel consumption. This Green Truck Partnership example shows a 1.8% improvement in fuel economy was recorded over the trial period.

Urban tippers operating in the Greater Sydney region were fitted with Automated Manual Transmissions (AMTs), which do not require clutch actuation and therefore can lower energy losses. In this trial a substantial fuel efficiency benefit of 11% was achieved, compared with the fully automatic transmission.

Refrigeration units place a significant load on vehicle engines. As shown here, removing some of the burden of cooling from the diesel engine by using electric standby refrigeration technologies can bring an almost 50% reduction in greenhouse gas emissions.

7625489 (4/6/13)

See Also:

- *Ecodriving Factsheets*
- *Case Study: Electric and Hybrid Vehicles*
- *Case Study: Fleet Efficiency*
- *Case Study: Alternative Fuels*
- *Case Study: Biodiesel – Adelaide Metro bus fleet*

Further information:
Email: DPTI.LowEmissionVehicles@sa.gov.au
Web: www.lowemissionvehicles.sa.gov.au

Government of South Australia
Department of Planning, Transport and Infrastructure