Business Chamber QUEENSLAND

EFFICIENT DRIVING
AND FLEET MANAGEMENT

For companies that have several vehicles or a fleet, fuel use can be a significant cost of the business.

THE NEED TO TRAVEL

Firstly, consider the amount of travel undertaken by your business and whether some travel can be avoided or reduced, or alternate modes of transport can be used.

- If travelling for a meeting, is it possible to set up conference calls or video calls? Conference and video call set ups can be extremely cheap and easy to use. There are many options for video calls which can be taken from any computer and smart phone. They don't need a large set up and can link up groups of people in different locations. Particularly for in-house calls to multiple office locations, conference calls can reduce unnecessary travel and allow staff to feel part of the team without spending time and money on travel.

- Can short vehicle trips be replaced with walking, cycling or public transport trips?

FLEET SELECTION

Traditionally, vehicle fleets in Australia were dominated by six-cylinder cars due to fringe-benefit taxes. However, fuel consumption, cost, and greenhouse gas (GHG) emissions mean the selection of a fuel-efficient vehicle is very important.

LPG vs Petrol vs Diesel

LPG fuel has a lower energy content per litre, so more fuel is required to travel 100km compared with a petrol vehicle, however, it burns more cleanly giving fewer emissions. Less diesel is required per 100km compared to petrol, although it produces more particulates and nitrogen oxides.1

Consider Alternative Fuels

Biofuels include ethanol blends such as E10 or E85. These release fewer greenhouse gases per litre as the CO2 released by the ethanol component is bioorganic (pulled from the atmosphere when the fuel is grown and then returns to the atmosphere when burnt). However, E10 will increase fuel consumption on regular unleaded fuel by 1 to 3.5%.2 Most vehicles are suitable for using ethanol blends, however, check the manufacturing guidelines before you use it, just to be sure. An E85 blend is available in some service stations. This should not be used unless the vehicle is specifically designed for it. Similarly, biodiesel reduces carbon emissions and is accepted up to 5% by most recent diesel vehicles. Make sure check the manufacturing guidelines before using it.

What are the requirements of the vehicle?

Is it for staff or passenger transport? Will a smaller passenger car be more efficient if it will rarely carry more than one passenger? Will it be carrying large, heavy equipment or just a few boxes? Would a slightly larger vehicle allow fewer, multi-stop trips rather than smaller vehicle requiring shorter more frequent trips? What types of roads will you be travelling on? Can a smaller, more fuel-efficient vehicle do the same job?

What is the fuel efficiency of the new vehicle?

All new light vehicles (up to 3.5 gross tonnes) sold in Australia must display a fuel consumption label which outlines the fuel efficiency in L/100km based on urban, extra urban and a combined rating. These standardised tests allow fuel efficiency of cars to be compared. Actual fuel consumption relies on driver behaviour, maintenance, load on the car and traffic conditions.

What type of driving will the vehicle be used for?

Fuel choice should be linked to the type of driving required. Diesel cars are more efficient for longer trips while hybrid cars are better for short frequently stopping trips especially around city areas.3 Currently, the higher purchase price of hybrid cars would take many years to payback in fuel savings.1 Similarly, the increased purchase price of a diesel vehicle will only be paid back in running costs if the vehicles are driven long distances each year.4

How aerodynamic is the vehicle?

Are there additions to improve the aerodynamics? Additions such as air defectors, cab roof deflector, side fairings, tapered roof panel and side guards and chassis body panels can save fuel especially when frequently travelling above 80km/h.5 Conversely bull bars disrupt air flows and increase fuel consumption.

Do you have extra equipment?

If you have extra equipment such as cranes or refrigeration systems make sure they are correctly sized for the vehicle engine to prevent running the engine harder than its design.

Electric Vehicles (EVs)

EVs have an advantage over standard cars by producing their emissions in a controllable stationary location (power station) or not at all, if charged off renewable energy. Each year improvements to electric vehicles make them a more viable option. Capabilities of these vehicles range from low speed and distances of up to 100km to speeds and ranges over 400km comparable with standard vehicles.

Electric Scooters & Bikes

In addition to the significant reduction in emissions, E-bikes have the benefits exercise. E-bikes and scooters are a great alternative for businesses where a full vehicle may not be required. Charging an e-bike battery can cost as little as 30 cents for every 100km, and even less if your energy source includes solar panels.6

You can find out more about E-mobility in Brisbane here:

https://www.cyclingbrisbane.com.au/riding%C2%A0types/e-mobility

The Green Vehicle Guide provides information on vehicle greenhouse gas and air pollution emissions

www.greenvehicleguide.gov.au

The government has also released a Truck Buyers Guide to assist in truck purchases.

www.truckbuyersguide.gov.au

PLANNING YOUR USAGE

Taking the time to plan ahead can reduce fuel consumption and wear and tear on vehicles.

- Planning the route for each trip and taking the most direct route can reduce fuel consumption, wear and tear on the engine and time driving. Try to avoid roadworks and hilly terrain. GPS tracking allows managers to know the precise location of every vehicle.

- Scheduling ahead and planning multiple stops in a round trip can reduce distances travelled. This may require scheduling several days ahead for deliveries or pickups. Working with the supply chain and having a good relationship with customers and suppliers can assist you to amalgamate deliveries and reduce fuel consumption.

- Once the scheduling has been arranged, the most efficient route needs to be developed. Considerations include minimising distance, time of day and traffic. The shortest distance between the stops may not be the shortest trip if the traffic is slow. Routes that use less frequented roads (without breaching vehicles restrictions or rat-running) may be a longer distance but a shorter time. Scheduling deliveries out of peak traffic can reduce overall driver time and fuel consumption.

- If more than one staff member needs to be on-site at one time, consider car-pooling from the office or a suitably central location and drive together. Similarly, can staff be dropped off on route to another delivery and picked up on the way back rather than taking their own car?

- Consider travel blending, a technique developed in Australia that encourages a greater number of tasks be executed on one given trip rather than making several trips to multiple locations at different times.

The best way to be fuel efficient is to reduce fuel consumption through minimising vehicle use and well-planned journeys.

CAR-POOLING AS PART OF BUSINESS

Marine Civil Contractors provide specialty marine services which require on-site location for staff. Due to the safety requirements, they generally have more than one staff member at each site. To increase fuel efficiencies, staff meet at the office and then carpool to locations.

MAINTAIN YOUR VEHICLE

Keeping your vehicle well maintained will increase fuel efficiency. Some maintenance tips to consider include7:

- Service the vehicle regularly. Either in-house or by specialists, these should be undertaken to a minimum of the manufacturer's specifications. Similarly, changing the oil and oil filter regularly will improve fuel efficiency.

- Keeping tyres properly inflated will improve efficiency. Tyres lose pressure when used and when not used especially when carrying a heavy load. They should be checked regularly to ensure they are at the manufactures specified pressure. Underinflated tyres can also lead to safety problems.

- Monitor the fuel economy of the car. A drop in fuel efficiency may indicate a problem with the engine or brakes. Picking this up early, to fix before a breakdown, will save time and money.

Driving smoothly and carefully can reduce fuel consumption by 5-10% and even 30%5

EFFICIENT DRIVING

You can achieve up to 30% improvement in fuel efficiency through efficient driving.5 Some efficient driving tips include:

- Avoid hard braking or acceleration. Heavy accelerating from traffic lights increases fuel consumption and wear and tear on the engine. Look ahead to predict the traffic flow and maintain a steady speed.

- The speed limit is not always the most fuel-efficient speed. It is estimated that you save 16% in fuel consumption by driving at 90km/h instead of 110km/h.

- Air conditioning can increase your car's fuel consumption by 10%. Park in the shade where possible and open windows instead of using air-conditioning. However, drag caused by open windows when driving over 50km/hr is similar to using the air conditioning.

- You also reduce drag resistance by removing your roof racks and bull bars. Don't keep unnecessary weight in your vehicle, this can increase fuel consumption by 24%.

- Avoid prolonged idling. If you are stuck in traffic or stopped to make a delivery, turn the engine off. Some GPS units for fleet managers can now produce an Idling Report for their drivers.

- Monitor your fuel use. Use fuel cards to help control and manage fuel costs. Apps are also now available to help you monitor your fuel economy, maintenance history and expenses.

When you have done as much as you can to operate efficiently, consider offsetting your emissions. Consider the type of project you would like to invest in. Then evaluate the provider to ensure they are a reputable and will do what they claim. You will either have to calculate your carbon emissions or estimate your emissions based on the type of vehicle or distance travelled. ecoBiz can provide a snapshot of your carbon emissions from fuel and other energy data you submit to the team.

COMMUTER ENCOURAGEMENT

Supporting your staff to use alternative transport methods can provide benefits to the company through happier and healthier staff with less time spent travelling. Some options include:

- Develop an access plan to provide alternative travel options for staff.
- Providing information on train and bus timetables and allowing flexible start and finish times to link in with bus and train timetables.
- Providing information on local bike/pedestrian paths, lanes, and routes.
- End of trip facilities, such as bike lock-up, shower and change rooms and clothes storage facilities to allow staff to cycle, run or walk to work from home (or from the train or bus stop).
- Support Bike Week and ride to work day and form a workplace BUG (Bicycle Users Group).
- Discourage driving by minimising car parking in areas where public transport connectivity is efficient, e.g., city centres.
- Encourage car-pooling where driving is unavoidable.

BENEFITS OF CYCLING TO WORK

The benefits of cycling to work include healthier, happier staff who are more productive and are likely to take fewer sick days. For trips of less than 15km within the CBD areas can be faster than other forms of transport. It reduces greenhouse gas emissions, increases workplace wellbeing, staff productivity and reduces pressure on parking.

FORKLIFTS

Forklifts are often forgotten vehicles in a fleet. Some additional considerations specific to forklifts include:

- Review the layout of the plant and the forklift paths to reduce the distances travelled by forklifts. Streamlining layout will also reduce double handling of items, improving fuel efficiency and reducing labour time.
- Don't leave engines idling.
- Undertake preventative maintenance on forklift to ensure optimum operation.
- When replacing forklifts look for energy efficient models and consider battery operated and recharge during off-peak hours.

REFERENCES

Forklifts are often forgotten vehicles in a fleet. Some additional considerations specific to forklifts include:

1) Steen, M., Hynes, R, (2014), Driven to save the planet?

www.choice.com.au/transport/cars/eco-friendly/buying-guides/green-cars

2) NRMA, , (n.d.), Fuel 101: Choosing the right type for your car

https://www.mynrma.com.au/cars-and-driving/fuel-resources/fuel-101-choosing-the-right-type-for-your-car

3) Brown, Binna, (June 2011), Think before you fuel around

www.smh.com.au/money/investing/think-before-you-fuel-around-20110611-1fxw3.html

4) NRMA, (n.d.), Petrol or diesel?

https://www.mynrma.com.au/cars-and-driving/fuel-resources/pros-and-cons-of-petrol-and-diesel-cars

5) Australian Federal Government, Truck buyers Guide

www.truckbuyersguide.gov.au

6) Costs for charging an electric bike in Australia, Cargocycle

https://cargocycles.com.au/useful-information/costs-for-charging-an-electric-bike-in-australia/

7) GreenerCars.org, (n.d.), Maintenance

www.greenercars.org/green-driving/maintenance

8) Australian Federal Government, Green Vehicle Guide

www.greenvehicleguide.gov.au

9) Department of Transport and Main Roads, A bicycle fleet guide for your workplace

https://www.tmr.qld.gov.au/_/media/travelandtransport/cycling/participation-and-encouragement/bicycle-fleet-guide.pdf?sc_lang=en&hash=4BA2237C40F818FCD0D09DB104DA3CDA