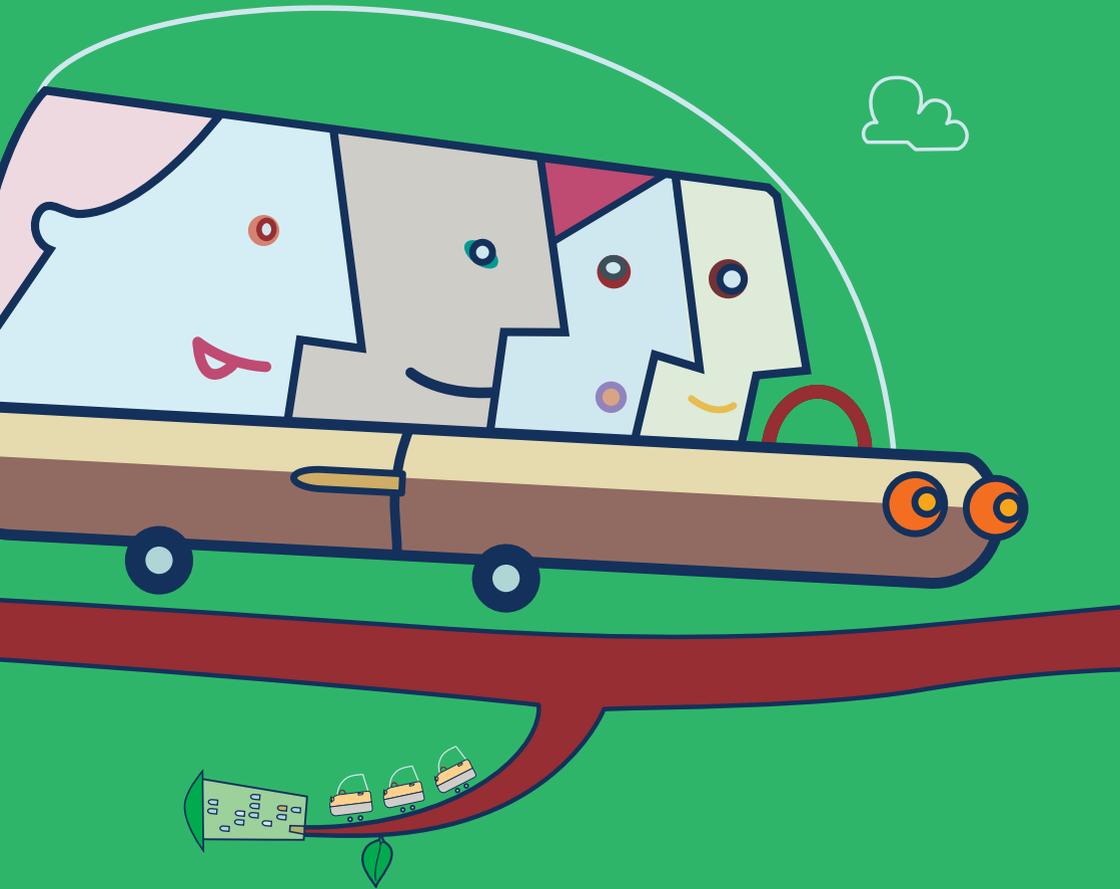


Take the Right Route

A Guide to Eco-Driving



While cars offer convenience and mobility, these benefits come at a high price to our environment and to our quality of life. Road traffic (total vehicle kilometres) in the area has increased by around 20% in the last decade and is projected to increase by another 16% by 2015. Time lost to congestion is projected to increase by 54% by 2015.

Take the Right Route is a programme aimed at helping people in and around the Falkirk Council area use alternative forms of transport instead of the car.

Walking, cycling or using buses and trains can be healthier, less polluting, quicker and more convenient than a car for many journeys. However, we recognise that for some journeys there will be no convenient or viable alternative to using the car. This booklet provides some useful tips on how to reduce the financial and environmental costs of running your car when leaving it at home isn't possible.

Be an eco-driver!

We all like to think we're good drivers, but did you know that a few little changes to the way you drive could reduce your annual fuel costs by up to 15%.

Eco-driving has been promoted in the UK through awareness campaigning, such as Act on CO2 and it is now a compulsory element in the theory aspect of the driving test.

Once you've mastered the changes in this booklet, not only will you start to make real savings, but you'll also be doing your bit for the environment, as you will be driving your car more efficiently. This means your car will produce less CO2 - the main gas contributing to climate change.

Planning the journey

Think ahead and plan your journey. Use a road atlas or an online mapping service such as www.theaa.com or www.rac.co.uk to get the most direct route. This should also stop you getting lost. When possible, try to avoid travelling during rush hours or in busy towns and cities where you will be sitting in traffic. It is often more fuel efficient to take a slightly longer route that lets you maintain a steady speed than a shorter route with lots of traffic lights.

Allow enough time for the journey. When in a rush you are likely to drive faster, accelerate quicker and brake harder, all of which increase fuel use. Rushing could also lead to an accident. Listen to the radio for traffic updates during your journey or check online at www.trafficscotland.org before you go to avoid roadworks and other delays.

Car sharing

Car sharing with a friend, neighbour or colleague can be a good way of using your car in a more sustainable manner. Car sharing can save you money and help the environment - it is estimated that a typical car-sharer can save £800 and cut one tonne of CO2 a year by sharing their daily journey.

If you don't know anyone who is making a similar journey to yours, you could find a car-share partner through TripshareFalkirk. The scheme, created by Falkirk Council in partnership with SEStran, helps people find someone who shares their specific journeys for commuting, the school run, leisure trips or one-off journeys.

TripshareFalkirk is free to use, helping you save money, cut congestion, reduce pollution and help out a colleague, friend or neighbour. Register at www.tripsharefalkirk.com or call **0870 11 11 99** to find someone to share your journey with.

Drive less

One of the best ways of saving money and reducing your impact on the environment is to use your car less. Before you use your car ask yourself:

- Do I really need to make this journey?
- Could I walk or cycle or take the bus or train instead of the car?

Lots of short trips can cost more in both time and fuel. Short journeys (less than two miles when the engine is cold) use more fuel and pollute up to 60% more per mile than when the engine is hot. Several short trips can use twice as much fuel as a single, longer trip that covers the same distance. Also, catalytic converters can take up to five miles before they become effective.

Leave the car at home - use alternative transport

We know there are times when the car is absolutely vital, but there may be another, easier or more cost-effective way to complete your journey that also benefits the environment. If possible try to use public transport for all or part of the journey, or walk or cycle. This can often be cheaper and less stressful than driving. Using alternative transport is also a good way to reduce your CO2 emissions.



If you want to find out more about alternative means of transport, you could visit:

- **www.trafficscotland.org** which gives information on congestion, roadworks and minimising journey times.
- **www.travelinescotland.com** for accurate, up to date, and impartial information on planning your journey by the quickest public transport mode. You can also phone 0871 200 22 33.
- **www.chooseanotherway.com** gives advice on using buses, trains, cycling and walking.
- **www.transportdirect.info** for journey planning information.

Discover the benefits of travelling in alternative ways

There are a number of benefits you could enjoy from making some of your journeys by sustainable 'active' means, such as:

- Health / Fitness: by getting active travel into your routine;
- Money: by making more economical travel choices;
- Time: by saving you time, or allowing you to use your time more productively while travelling;
- Quality of life: by providing you with opportunities to travel in stress-free ways while benefiting your local environment.



Driving more efficiently

How you drive can greatly affect the amount of fuel you use. Being aware of your driving technique and adjusting it accordingly can save fuel, reduce exhaust emissions and increase safety.

Smooth driving saves fuel and reduces accidents. Hard, fast acceleration uses up fuel rapidly and wears out the engine and tyres quicker. Hard breaking is equally draining on fuel and then requires acceleration again to get moving from slower speeds or standstill. By anticipating the road ahead and leaving an adequate gap between vehicles you can maintain a steady speed. Also try to avoid accelerating towards signals at red. Instead take your foot off the accelerator and allow the momentum of the car to coast towards the stop line.

Efficient use of gears can improve fuel consumption. Select the correct gear and change up as soon as possible, without accelerating harder than necessary. Petrol cars should be changed up before 2,500rpm, diesel cars before 2,000rpm. Most modern cars can run in top gears at around 40mph, but don't allow the engine to labour in high gears when driving uphill or into corners. Automatic transmissions will change through the gears more quickly and efficiently if you ease back slightly on the accelerator as the car gathers speed.

Your speed influences fuel use and exhaust emissions. Although vehicles reach optimum fuel economy at different speeds, fuel economy generally decreases rapidly at speeds above 50mph. By staying within the speed limit you are both driving safer and allowing your fuel to take you further. A car travelling at 80mph uses up to 15% more fuel than the same car travelling at 70mph, while travelling at 50mph rather than 70mph will reduce your fuel consumption by up to 10%. By enforcing the 70mph speed limit 1 mega-tonnes of carbon from vehicle emissions could be saved in the UK, so slowing down can save you money on fuel and reduce carbon emissions.

Unnecessary weight in the boot of your car, roof boxes, roof racks and cycle carriers can increase fuel consumption and emissions. An extra 100lb (28kg) of weight can cost you 2% more in fuel. Items such as roof racks also significantly increase drag, so remove them when not in use.

Air conditioning is especially draining on vehicle fuel, using up to 10% extra fuel when operating. At low speeds open a car window instead - the impact of aerodynamic drag is relatively small. However, when travelling at speeds above 50mph air conditioning is more fuel efficient than opening a window.

When the engine is idling you are wasting fuel and adding to CO2 emissions. Idling can also contaminate engine oil and damage engine components. Modern cars do not require warming up, except in exceptionally cold weather where around 30 seconds of idling will be sufficient. If you expect to be stopped for more than 10 seconds, except in traffic, turn off the engine. You will get better fuel consumption switching off the engine and restarting than idling for longer than 10 seconds. If you are stuck in a traffic jam, consider switching off and restarting, especially if the traffic is not moving.

Finally, if you own more than one vehicle, drive the one that gets the best mileage wherever possible.

Winter Driving

In the winter your car has to work harder to warm up the engine until it reaches peak operation. Fuel consumption in cold weather soars by as much as 50%. Driving the car as soon after starting allows other components such as wheel bearings, suspension, transmission and tyres to warm up too. Avoid rapid acceleration and high speeds for the first three miles to bring the car up to peak operating temperature while maximising fuel efficiency.



To prevent the car windows from fogging up, open the window as soon as you get into the car. Clear any snow from the air intake vents on the bonnet, otherwise the defroster will draw in moisture and fog the windscreen.

Snow adds extra weight to your car, which in turn increases fuel consumption. Snow should be removed from the car body, as well as the wheel wells and under bumpers where the snow can rub against the tyres and increase rolling resistance.

When driving in snow and ice remember to take it easy. The more the car slips and slides the more the wheels spin and the more fuel you waste. Correct use of the gears can slow the vehicle in these conditions.

Buying a New Car

If you are thinking about buying a car, there are a number of things to consider both to save yourself money and to lessen your impact on the environment.

The car you drive makes a big difference to your costs. When buying a car you should consider:

- What size and type of vehicle do you really need? Consider the distances you will typically be driving, numbers of passengers/luggage you will carry etc. A smaller more fuel efficient model can save money on fuel bills, tax and insurance - and reduce emissions.

- The fuel economy of similar sized cars can vary. Websites such as www.eta.co.uk or www.carfueldata.direct.gov.uk give fuel consumption figures for new cars.

More fuel-efficient cars cause less pollution and will save you money on both fuel and tax - where possible choose a car with the lowest CO2 emission levels. In general, small cars and cars with smaller engines produce less CO2. There can also be a big difference in emissions of cars in the same market category, so make sure you compare before making your decision.

You can find information about a car's CO2 emissions:

- On the environmental label displayed on all new cars in showrooms. This grades each car from A (the cleanest) to M (the most polluting) and is similar to the EU energy label found on 'white goods'. Your annual road tax (vehicle excise duty) will depend on this grade - ranging from zero band A cars up to £435 a year for band M (2010 rates). See www.carfueldata.direct.gov.uk for more information.
- In car adverts - manufacturers are obliged to publish CO2 emission information by law.

It is also easy to overlook the true cost of motoring. There are everyday running costs, such as fuel, and other costs, such as servicing, repairs, parking charges and breakdown cover to factor in. Again, the smaller the car the cheaper many of these are.

Fuel

There is a growing choice of fuel types available for new cars, which can be much more efficient and environmentally friendly than traditional petrol or diesel cars. Below is a list of different fuel types available at present, with information on each. As this is a growing market, keep an eye out for future developments.

Diesel

Diesel cars emit less CO2 than their petrol equivalents, but produce more 'air quality' emissions, such as nitrogen oxides (NOx) and particulates, which pollute towns and cities and affect our health. If you are considering buying a diesel car, choose one with a diesel particulate filter to reduce particulate matter emissions.

Hybrid vehicles

Hybrid cars have a conventional engine in addition to an electrical motor and battery which is recharged while you drive. Current models run on petrol and electricity, although diesel/electric hybrid models are expected soon. Hybrid cars are already available from several manufacturers and are proving increasingly popular. Some models travel more than 55 miles on one gallon of fuel, but are usually at their most fuel efficient in urban driving conditions.



Electric vehicles

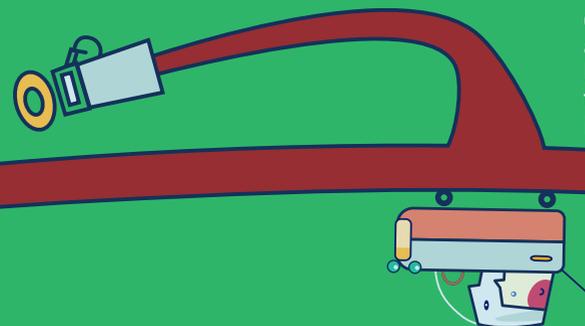
Electric vehicles produce no exhaust emissions and are exempt from road tax. They can be recharged by plugging them into the mains. Most have a range of about 40-50 miles and a top speed of about 50mph, so are best suited to urban driving. However, new designs are being developed that have a greater range. Even if an electric vehicle is not practical for your main car, it may be worth considering as a second car.

Biodiesel

Biodiesel is a diesel substitute produced from plants, or less commonly from waste cooking oil, that reduces CO2 emissions. All diesel sold in the UK contains 5% biodiesel as all diesel cars can run on B5 (a blend of 5% biodiesel and 95% conventional diesel). Using blends of more than 5% invalidates most cars' warranties so check with your manufacturer before trying it. You should not use untreated plant oil as this could damage your engine.

Bioethanol

Produced by fermenting plant material, bioethanol is a petrol substitute that, reduces CO2 emissions. All petrol cars can run on E5 (a ready mixed blend of 5% bioethanol and 95% petrol). You should only use blends of more than 5% if your car has been specifically designed to run on ethanol. Although not yet widely available in the UK, bioethanol is likely to become more popular in the next few years. All petrol sold in the UK contains 5% bioethanol.



The Top 10 Tips for Greener Driving

Following the steps below will help you save money and reduce your car's impact on the environment:

- 1 Keep an eye on your revs and change gear before 2,500rpm (petrol) / 2,000rpm (diesel).
- 2 Anticipate the road conditions and drive smoothly. Avoiding sharp acceleration and heavy braking saves fuel and reduces accident rates.
- 3 Maintain a steady speed in as high a gear as possible.
- 4 The most efficient speed depends upon your car, but is typically around 45 – 50mph. Faster speeds greatly increase fuel consumption.
- 5 Check your tyre pressure. Under-inflated tyres are dangerous and can increase fuel consumption by up to 3%.
- 6 If you're likely to be at a standstill for more than three minutes, switch off the engine. Doing so will save fuel and reduce emissions.
- 7 Use air conditioning sparingly as it significantly increases fuel consumption.
- 8 Accessories such as roof racks, bike carriers, and roof boxes significantly affect your car's aerodynamics and reduce fuel efficiency. Remember to remove them when not in use.
- 9 Plan your journeys to avoid congestion, road works and getting lost.
- 10 Avoid short journeys - a cold engine uses almost twice as much fuel and catalytic converters can take five miles to become effective.

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www.falkirk.gov.uk/taketherightroute

