

Fuel-Efficient Driving Techniques

Fuel-efficient driving can save you / us hundreds of pounds in fuel each year, improve road safety and prevent wear on your vehicle. These fuel-efficient driving techniques can lower your vehicle's fuel consumption and CO2 by as much as 25%, with 10-15% likely on-going savings.

Maintenance

- Get your car serviced regularly for best efficiency.
- Always use the right specification of engine oil (check your handbook).
- Keep your tyres at the correct pressure and check them before long journeys – under-inflated tyres will make your car use more fuel.

Before you go

- **Save weight** – extra weight means extra fuel so if you don't need it, take it out. The fuel consumption of a mid-size car increases by about 1% for every 25 kilos of weight it carries.
- **Cut drag** – bike racks, roof-racks and boxes add to your fuel consumption. Streamline your vehicle by taking off the racks when you're not using them. Aerodynamic drag can increase fuel consumption by as much as 20% on the highway. Pack carefully to reduce drag, or take it off.
- **Don't hang around** – idling wastes fuel and your engine warms up more quickly when you're moving so don't start the engine until you're ready to go. (It's also bad for air pollution to leave it idling.)
- **De-icing** – scrape ice in the winter rather than leave your car idling to warm up.
- **Plan your journey** – getting lost wastes fuel. Use a driving app and check traffic news before you go too.
- **Combine short trips** – cold starts use more fuel so it pays to combine trips if you can.
- **Walk or cycle** – if you're only going a couple of miles or so, consider cycling and if its further consider an electric bike. There are also tax-free incentives. www.cyclescheme.co.uk

Driving for maximum fuel efficiency

1. Accelerate gently – keep it smooth and gentle

The harder you accelerate the more fuel you use. Drive smoothly, accelerate gently and read the road ahead to avoid braking unnecessarily.

Decelerate smoothly by releasing the accelerator in time, leaving the car in gear.

In the city, you can use less fuel by easing onto the accelerator pedal gently. (To be as fuel-efficient as possible, take 5 seconds to accelerate your vehicle up to 15 mph from a stop. Imagine an open cup of coffee on the dashboard. Don't spill it!

2. Maintain a steady speed

Keep rolling – stopping then starting again uses more fuel than rolling. Slow down early for traffic lights or approaching a queue and you might not have to stop completely.

When your speed dips and bursts, you use more fuel, and spend more money than you need to. Tests have shown that varying your speed up and down between 47 and 53 mph every 18 seconds can increase your fuel use by 20%.

Consider using cruise control for highway driving, where conditions permit. Be mindful, however, that little variations in speed can actually be good when gravity does the work. Where traffic patterns permit, allow your speed to drop when you travel uphill, then regain your momentum as you roll downhill.

3. Anticipate traffic

Look ahead while you're driving to see what is coming up. And keep a comfortable distance between your vehicle and the one in front of you. By looking closely at what pedestrians and other cars are doing, and imagining what they'll do next, you can keep your speed as steady as possible and use less fuel. It's also much safer and more considerate.

4. Avoid high speeds

Stick to the limit – going faster uses more fuel. Drive at 70mph and you'll use up to 9% more than at 60mph and up to 15% more than at 50mph. Taking it up to 80mph can use up to 25% more fuel than at 70mph.

Most cars, vans, pickup trucks and SUVs are most fuel-efficient when they're travelling between 50 and 80 km per hour.

5. Coast to decelerate

Every time you use your brakes, you waste your forward momentum. By looking ahead at how traffic is behaving, you can often see well in advance when it's time to slow down. You will conserve fuel and save money by taking your foot off the accelerator and coasting to slow down instead of using your brakes.

It used to be quite common to try to save fuel by rolling downhill out of gear but this is not recommended, as you don't have full control:

- You can't suddenly accelerate out of a tricky situation.
- You lose engine braking and risk overheating your brakes.
- Coasting won't save you fuel these days either.
- Fuel and ignition systems are effectively combined and controlled by one Electronic Control Unit (ECU). When you take your foot off the accelerator the ECU cuts the fuel supply to the injectors anyway so there's nothing to be gained by coasting.

6. Change up earlier

Don't labour the engine but try changing up at an engine speed of around 2,000 rpm (diesel) or 2,500 (petrol). Since 2014 new car models have been fitted with a gear shift indicator to encourage use of the most efficient gear.

7. Use your air-con wisely

At low speeds, air-con increases fuel consumption but at higher speeds the effect is less noticeable. Try opening the windows around town and save the air-con for high speed driving. Don't leave it on all the time but running it at least once a week helps keep the system in good condition.

8. Cut down on the electrics

Turn off your rear window heater, demister fan and headlights when you don't need them.

Is it best to idle or switch off?

Unless your car has an automatic stop/start system, don't switch off to save fuel unless your engine's warm, you expect not to move for 3 minutes or so (at a level crossing for example) and you know you've got a good battery.

Cars with 'stop/start' have up-rated components and systems to make sure the engine only stops if it will restart.

How much can you save?

If you want to see how much you can improve on your current fuel consumption and you've got an on-board computer that shows miles per gallon/mpg then it's easy:

1. Take a note of the overall average you're getting now.
2. Reset the computer and start recording a new average.
3. Try to compare similar periods of time – whole weeks or months say – and similar types of driving.

To work out your average mpg without an on-board computer:

1. Fill the tank and record the mileage.
2. Keep a record of any subsequent fuel purchases (you don't have to completely fill the tank again until you're ready to work out your mpg).
3. Ideally go back to the same pump at the same garage you first filled the car and fill the tank again to the same level.
4. Divide the total mileage since the first fill by the total number of litres used and multiply by 4.546 to get miles per gallon.

Example:

If you've covered 1000 miles and used 101 litres of fuel, your average mpg = $(1000/101) \times 4.546 = 45\text{mpg}$

More ways to use less fuel

Here are more easy ways you can reduce your fuel consumption and costs:

1. Avoid idling your vehicle

Turn off your engine when you're stopped for more than 60 seconds, except when in traffic.

The average vehicle with a 3-litre engine wastes 300 millilitres (over 1 cup) of fuel for every 10 minutes it idles.

2. Measure your tyre pressure every month

Driving a vehicle with tyres under-inflated by 56 kilopascals (8 pounds per square inch) can increase fuel consumption by up to 4%. It can also reduce the life of your tyres by more than 10,000 kilometres.

Find the right tyre pressure for your vehicle on the tyre information placard. It's usually on the edge of the driver's door or doorpost. [Learn more about tyre maintenance.](#)

3. Use air conditioning sparingly

Air conditioning can increase a vehicle's fuel consumption by as much as 20%. Open the windows when you're driving in the city, and use the flow-through ventilation system with the windows up on the highway. If you do use air conditioning, use the re-circulate option. It will minimize the impact.

4. Use a fuel consumption display

See the impact of the 5 fuel-efficient driving techniques first-hand with the help of a fuel consumption display, a feature now standard on many vehicles. (Some newer vehicles come equipped with even more sophisticated displays that analyse speed variations, shift points for manual transmissions, and driving behaviours such as acceleration and braking times.)

Many drivers consume 15% less fuel by acting on the feedback that fuel consumption displays provide.

5. Track your fuel consumption

How long can you go without filling your tank? Two weeks? A month?

Challenge yourself to refill as seldom as possible and your monthly costs will come down.

6. Plan ahead

- Map out your route, especially if it's long.
- Listen to traffic reports and avoid accidents, road construction and other trouble spots.
- Avoid roads that cut through major cities and are dotted with stop lights, intersections and pedestrians.
- Use four-lane highways when you can.

7. Combine trips

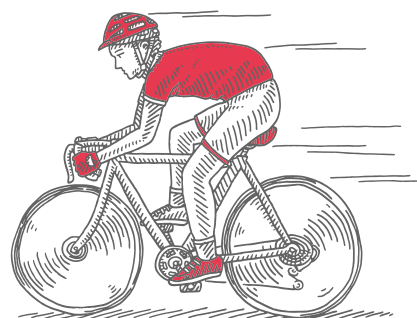
Longer excursions let your vehicle's engine warm up to its most fuel-efficient temperature.

- Run your errands one after the other.
- Plan your route to avoid backtracking and rush-hour traffic.

8. Drive less

The best way reduce fuel consumption is to drive less.

- Walk or bike to your destination. You'll use no fuel and have a healthier lifestyle.
- Use public transit.
- Join a car or van pool. You and your group will save fuel and avoid emitting tonnes of air pollutants a year.
- Work from home when you can. Every day you telecommute reduces the amount of fuel you use by 20%.



Challenge yourself

Committed to saving money and shrinking your environmental footprint? Use this personal action plan to achieve your goals.

Your Personal Action Plan

Your fuel-savings target: _____%

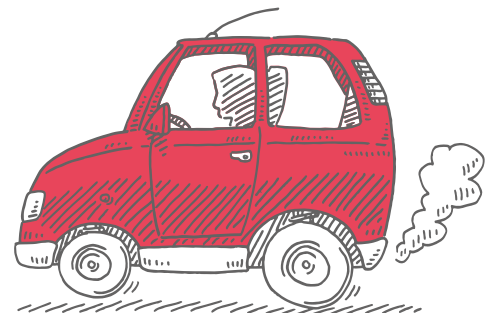
Ways to reach your goal:

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3. Anticipate traffic
4. Avoid high speeds
5. Coast to decelerate
6. Change up earlier
7. Use your air-con wisely
8. Cut down on the electrics

More ways to use less fuel

1. Avoid unnecessary idling
2. Measure tyre pressure monthly
3. Avoid carrying unnecessary weight
4. Remove roof or bicycle racks not in use
5. Use air conditioning sparingly
6. Use a fuel consumption display
7. Track fuel consumption
8. Plan ahead
9. Combine trips
10. Drive less often



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Sources: The AA, The Government of Canada