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Driving an RV Combination

Fast Fact

Fuel-efficient driving techniques can improve fuel economy by up to 30 per cent. Fuel-efficient driving is also safe driving. By looking ahead, keeping good space margins and anticipating road hazards, you can avoid sudden stops and changes in speeds. These and other safe driving habits also save on fuel and maintenance costs.

For more smart ways to be fuel-efficient, visit the Natural Resources Canada Office of Energy Efficiency website at www.oeenrcan.gc.ca or call 1-800-387-2000.

For more tips on how to drive smart and save money, go to www.drivesmartsavegreen.com.

Power to Move and Power to Stop

A typical compact car weighs about 1,000 kg and has about 120 horsepower. It can accelerate to 100 km/h within about 200 metres and in less than 10 seconds.

A pickup truck and RV trailer may weigh 8,000 kg. Even though the truck may have a diesel engine producing over 300 horsepower, because of the weight of the combination and its load, it may take 500 metres or more to accelerate to 100 km/h and take 30 seconds or more to do so.

Now think about stopping this combination from 100 km/h. How much energy is needed to stop it? You certainly would want to stop it in a much shorter distance and time than it took to accelerate to 100 km/h. In an emergency, the rig might have to be braked to a stop in as little as seven seconds – about one-quarter of the time it took to reach 100 km/h.

To stop the vehicle in one-quarter of the time it took to accelerate would require a stopping force of four times the acceleration force – the equivalent of approximately 1,200 horsepower.

Reduce your speed in snow or ice. In extremely bad conditions, it may be safer to park your vehicle than to continue driving.

Definition

Driver's Perception Time
 + Reaction Time
 + Braking Time
 = Total Stopping Time

Fast Fact

Total stopping distance or time depends on the ability of the brake linings or pads to produce friction, the brake drums to dissipate heat and the tires to grip the road.

You should keep at least a five-second following distance between you and vehicle ahead of you when you are towing an RV.

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Stopping Distance and Stopping Time

To stop a vehicle, you need to **See-Think-Do**. Total stopping distance is the distance your vehicle will travel from the moment you:

- **See** – a hazard;
- **Think** – decide to stop;
- **Do** – place your foot on the brake pedal until you stop.

This *distance* can also be expressed as the *time* it takes to stop.

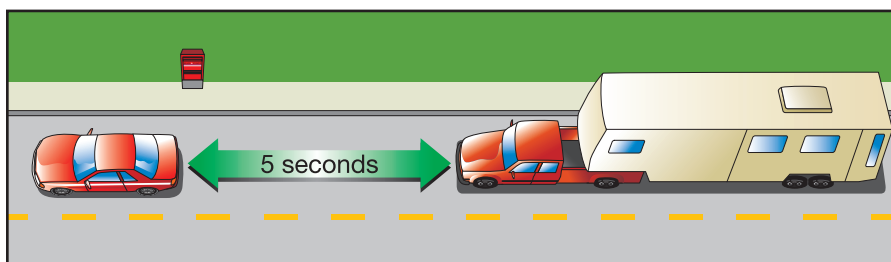
When you see a problem ahead while driving, it will take you about three-quarters of a second of **See-Think (Perception Time)** and another three-quarters of a second of **Do (Reaction Time)**. Only then will your vehicle begin to slow.

Add to this the **Braking Time** – the time – or distance – the vehicle travels before it stops.

This is why it is so important to allow enough following distance:

- When driving a passenger car or light truck, use the two-second rule.
- When driving a motorhome or towing an RV trailer, you should never be less than five seconds behind the vehicle ahead at highway speeds.

When conditions are anything less than ideal, such as when road or weather conditions are poor, increase the number of seconds and adjust your following distance.



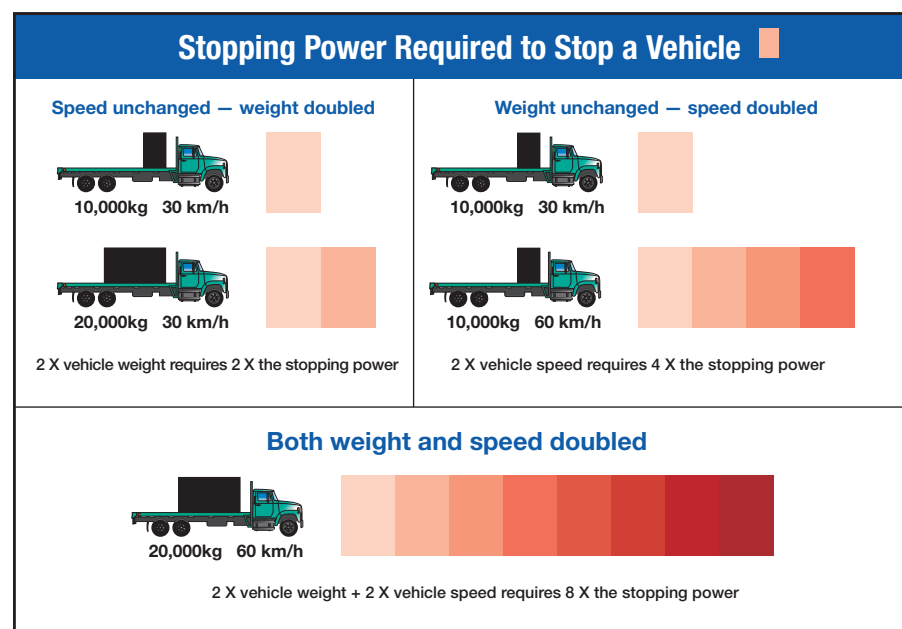
In the graphic above, as the car passed the mailbox, the RV driver began counting “one thousand and one, one thousand and two ... one thousand and five”. That’s five seconds.

If the mailbox was reached before the count is finished, the following distance is not enough – drop back, pick a new checkpoint and count again.

Speed and Weight Facts

Speed and weight affect the stopping power required to stop any vehicle, and how far it will travel before it stops. You need more stopping power whenever the speed you are travelling and/or the weight of your vehicle increases:

- 2 times vehicle speed requires 4 times the stopping power
- 2 times vehicle weight requires 2 times the stopping power
- 2 times vehicle speed and 2 times vehicle weight requires 8 times the stopping power



Braking and Acceleration

Towing an RV causes extra strain on the truck's brakes, and it will take longer to stop when towing a trailer.

Towing an RV also results in slower acceleration.

Braking

Bringing your vehicle to a stop on a level roadway usually means squeezing gradually and firmly on the brake pedal with your foot. However, as the speed or weight of your vehicle or the degree of emergency increases, you may have to react more quickly.

Just before your vehicle comes to a full stop, reduce the pressure you are placing on the brake pedal. This will prevent your vehicle from jerking back. Practise stopping until you become familiar with how much pressure you need to ease off the brake to smoothly stop where you want.

Watch the driving technique of the driver ahead. If the driver in front of you is a tailgater, expect frequent panic stops. Professional drivers maintain a safe following distance and plan for gradual stops. By making your stops slowly you give the driver behind you plenty of notice that you are reducing your speed.

Heavy RV trailers have longer stopping times and distances. To stop safely, you must ensure that your brakes are well maintained, your load is balanced and your tires are in good condition. You should also be certain that your tires are properly inflated.

To ensure a smooth, controlled stop every time:

- travel at a speed that allows you to see a safe distance ahead
- maintain a safe following time or distance; and
- use good braking skills

Icy Roads

To stop on icy roads, use extremely light pressure on the brake to control your vehicle's speed. This will help prevent the wheels from locking up. A slowly revolving wheel on an icy surface will be more effective than a locked wheel skidding on an icy surface. ABS equipped vehicles will require a different technique for braking on an icy road surface, as explained later in this chapter.

Don't let snow and ice build up in the rear of the truck. The added weight of the snow and its build-up can interfere with the clearance between the truck and the RV, affecting steering and handling.

Using chains on icy roads is a good idea. Make sure you are familiar with how to mount chains on tires – practise mounting them before you find yourself in conditions where you need to put them on your vehicle.

Make certain tire chains are properly sized for your tires and tightly mounted (do not deflate tires to install tire chains). Remember to stop after driving approximately 400 metres to check tire chain tightness. Reduce speed when driving with tire chains.

Reduce your speed in snow or ice. In extremely bad conditions, it may be safer to park your vehicle than to continue driving.

Anti-Lock Braking Systems

Contrary to what many people believe, anti-lock braking systems (ABS) do not allow you to drive faster and they don't always allow you to stop sooner. In fact, on some surfaces such as gravel, the braking distance needed with ABS may be longer.

Anti-lock brakes can help prevent wheel lock-up on surfaces where conventional brakes usually lock up – including surfaces that may be slippery because of water, ice, wet leaves, grease or spilled fluids. This means you can brake hard without skidding and losing steering control. ABS may also help you prevent your vehicle from jackknifing.

Anti-lock braking systems are only as good as the driver. Learn the correct technique and practise it so that you are ready in an emergency. Read the manual from your vehicle manufacturer to learn how to use your anti-lock braking system properly.

A few tips for emergency stopping with ABS:

- Apply firm, hard continuous pressure to the brake pedal until the vehicle stops.
- Don't pump the brakes. This turns the system on and off.
- Don't be alarmed by brake noise, pedal movement or shudder. This is normal. Keep applying firm pressure.
- Use the vehicle's steering ability to steer around obstacles. Remember that steering and handling characteristics will be affected by the trailer you are towing.

**Driving Tip**

Test the four-way flashers before towing a trailer to make sure that activating the truck's flashers will not also activate the trailer's surge brakes.

Some steep hill warning signs show the steepness of the grade. The higher the percentage, the steeper the hill. This hill has an 18 per cent gradient, which is very steep.

Downgrades

There is a practical limit to the amount of heat that brakes can absorb and dissipate. The highest brake temperatures occur when descending long downgrades. Almost all brake failures and downhill runaway crashes are caused by overdriving the ability of the brakes to deal with heat – in other words – poor speed control.

In many cases, you will need to descend a hill at a speed below the speed of other traffic in order to avoid overdriving your brakes. Use your four-way flashers to alert other drivers that you are driving slowly down the hill.

Downshift before you start down any steep hill. This is especially important if you are driving a standard shift vehicle.



If the lower gear does not control your speed when going down the hill, apply a steady brake pressure. You must control your speed all the way down every hill so you can respond to any emergency.

You may have to use a runaway lane because of some emergency in the system that will not allow a controlled descent. It is critical that you control the speed of your vehicle so it can be stopped at any time.

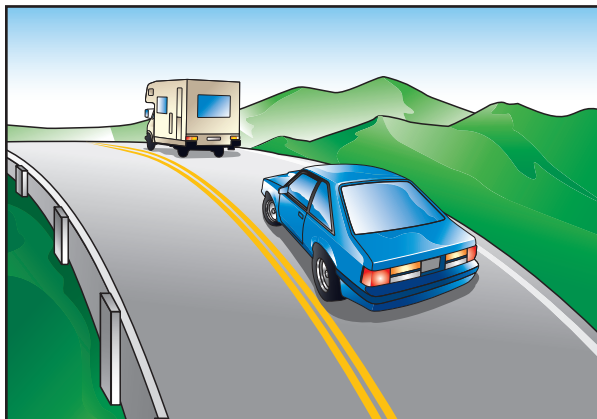
Water on Roadways

Water entering the brake drums will reduce their braking efficiency. Avoid driving through large amounts of water whenever possible. If it is necessary to drive through water on the roadway, cover the brake pedal with your foot as you approach the water. Place a slight drag (that is, apply a slight constant pressure) on the brakes while you drive through the water. The slight drag placed on the brakes will reduce the amount of water entering the brake drums and shoes. Always reduce your vehicle's speed before driving through large pools of water on the roadway.

During extremely wet conditions, or after driving through water, test your brakes for safe operation. Do this by applying a slight pressure with your foot on the brake pedal. Keep this pressure on for a short distance to dry out the brakes.

Traffic

Don't block traffic. If you're travelling slower than other traffic, such as when going uphill, change lanes or pull over where safe to let other drivers pass. On some highways there are paved areas where you can pull over to let other drivers get past. If a gravel or dirt shoulder looks soft, don't drive on it. The weight of your truck and trailer could cause your wheels to sink into the ground.



Whether driving a motorhome or towing an RV trailer, if you notice traffic building up behind you, find a safe place to pull off the road to let other drivers get past you.

Definition

Traffic flow refers to the movement of a group of vehicles travelling on one road. The actions of any one vehicle within this group may affect several or all of the other vehicles.

Driving slower than the flow

If you travel more slowly than the traffic flow, you increase your chance of a collision with vehicles travelling behind or beside you. Other drivers will become impatient and follow too closely or try to overtake your vehicle. After passing, they may cut in leaving you with little or no room for a quick stop.

Large vehicles tend to accelerate and travel at speeds that are slower than those used by small vehicles. When you are unable to keep up with the traffic flow you must travel in the right lane.

As a driver of a large vehicle, you must rely on outside mirrors for your rear vision. Tailgaters often sit in the blind spot directly behind large vehicles so you may not be able to see them.

It may not always be possible for you to prevent a rear-end collision caused by these drivers, but if stops are gradual, the impact may be much less.

Tailgaters

Tailgaters are easiest to deal with when they are in front of you. It is a good safety practice to allow tailgaters to pass. Watch for these drivers by checking your rear-view mirror frequently.

You should always use the right lane when you are travelling more slowly than other traffic and are going up or down a hill where a passing lane is provided. In some cases, signs require slower drivers to keep to the right lanes.





Traffic may build behind you when you are driving on a one-lane road and travelling more slowly than other traffic, such as when going up a hill. Allow them to pass as soon as it is safe.

It is a good safety practice to use your four-way flashers when you are driving slowly up or down a hill.



Traffic-control person ahead.

Construction Zones

Look for construction zones ahead and be prepared to obey traffic control persons and traffic control devices within the zone. Remember, road construction doesn't just occur in the daytime.

Just because you don't immediately see traffic control persons or workers doesn't mean they are not there. Be alert for traffic control persons, construction workers and equipment. In some construction zones, you may be required to wait for a pilot car to escort you through the work zone. Leave plenty of following distance between your vehicle and the vehicle immediately ahead. Avoid changing lanes in a construction zone. Also leave space between you, the construction crews and their equipment.

Expect delays, and plan for them by leaving early to reach your destination on time. Construction crews aren't there to personally inconvenience you but to improve the roads for everyone. Check radio, television and websites for the latest in traffic reports and updates to find out what is happening on the roads within your area, and along your intended route. Consider taking an alternate route.

Danger Zones

The section of road through which a vehicle must travel before it can stop is called the vehicle's danger zone. It is physically impossible for you to stop in time to avoid a collision with any object or person that may enter your danger zone.

As your speed increases, the length of your danger zone increases. Less than ideal road conditions, such as rain, snow, ice or gravel, increase the length of your danger zone. Driving your RV at a fast speed in these road conditions increases your danger zone even more.

Reduce your danger zone by slowing down.

You need more room and time to stop if your vehicle is heavy, if your brakes are in less than perfect condition or if the road surface is less than ideal.

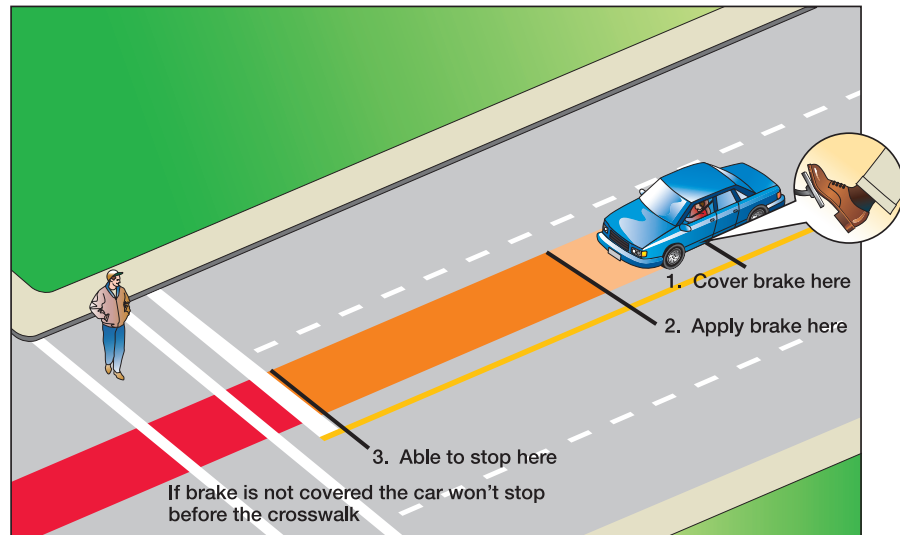
Remember that it is easier to keep out of trouble than it is to get out of trouble.

Your danger zone is reduced when your vehicle's speed is reduced. You also reduce your danger zone when you cover the brake pedal with your foot any time you see a potential hazard developing (e.g., whenever you approach an intersection).

By removing your foot from the accelerator and putting it lightly on the brake pedal when you first see a potential hazard in your danger zone,

the time you need to react is reduced. With your foot off the accelerator, your speed is slowing so you have a better chance of stopping before the crosswalk rather than in the intersection.

Prepare yourself when you see a hazard ahead. Take your foot off the accelerator and cover the brake. Your vehicle will slow slightly and you will be able to respond more quickly if you must stop.



Turns and Other Manoeuvres

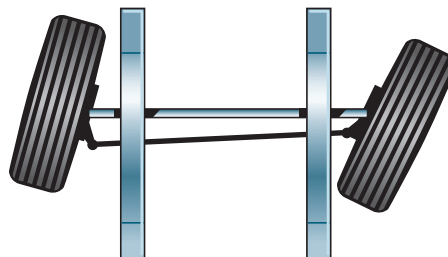
Each truck and RV trailer combination has its own driving characteristics. The extra size, weight and length affect the way these vehicles move, especially around turns and while backing up.

Always remember that you are towing a large RV trailer. You will need to position your truck carefully to avoid cutting corners or driving over curbs.

Turning Radius

How sharply you can turn the front wheels of your vehicle depends on the make and model of the vehicle you are driving. In all cases, the wheel on the inside of the curve (closest to the direction you are turning) will turn more sharply than the wheel on the outside of the turn. The inside wheel will have a shorter turning radius than the outside wheel.

The wheel on the inside of the turn must pivot more sharply to travel on the shorter radius than the wheel on the outside of the turn.



Definition

Wheelbase is the distance between the center of the front wheels and the center of the rear wheels of a vehicle.

Definition

Traction is the friction created between a vehicle's tires and the road.

Fast Fact

Tires that are in poor condition provide poor traction.

The radius is the distance from the centre of a circle to the edge of the circle. When a vehicle turns a corner, it is travelling on a curve. If that vehicle were to continue on the same path, it would eventually drive in a complete circle. The distance from the centre of that imaginary circle to the vehicle's wheel is the turning radius.

A vehicle's rear tires have a different turning radius than its front tires. It is important to know how to judge the turning radius of your front tires to prevent your vehicle's rear tires from cutting the corner.

Off Track

When a vehicle moves around a curve, the rear wheels follow a path that is different from the one created by the front wheels. The difference between the path of the front wheels and the path of the rear wheels is called off track. The greater the distance between the front wheels and the rear wheels of a vehicle, or a combination of vehicles, the greater the amount of off track.

Each set of wheels behind the front wheels turn with some off tracking. A truck towing an RV trailer displays several sets of off tracking. The rear wheels of the truck turn somewhat off track from the front wheels, and the wheels of the RV trailer turn with even more off tracking.

The amount of off track is dependent upon a number of factors including the wheel base of the truck, length of the trailer and the location of the pivot point between the truck and trailer (e.g., draw bar connection point or location of the fifth wheel). The longer the wheel base, and the longer the draw bar length or the farther back the fifth wheel is mounted, the greater the amount of off track.

Definition

A **full jackknife** occurs when a truck and the trailer form an angle of 90 degrees or less, relative to one another.

Warning: this can happen even at very low speeds. Jackknifing is often caused by poor braking techniques.

Curves and Turns

There are several forces that work against you while you move your vehicle around a curve or through a turn. You need to be aware of these and approach each curve at a speed that allows you to safely control your vehicle.

Inertia is the tendency for moving objects – in this case you and your vehicle – to continue to move forward in a straight line. When you brake, inertia tries to keep your vehicle moving. When you go around a curve, inertia tries to keep you going in a straight line.

The faster you are going and the heavier your vehicle, the more inertia will make it difficult for you to move your vehicle off a straight path. This force pushes your vehicle away from the path of the curve. The faster you are travelling, the more difficult it will be to keep your vehicle on the path of the curve.

Traction is the grip your tires have on the road. The amount of traction your tires have with the road's surface determines the amount of control you can maintain over your vehicle. If you enter a curve too quickly and try to slow down by applying your brakes, you may lose traction, causing your vehicle to skid, roll over or jackknife.

Reduce your speed before you enter a curve. Enter each curve at a speed that does not require you to brake and does allow you to apply gradual power while you are in the curve.

Curves

When you curve to the right, take care to keep the front wheels close to the centre line so that your rear wheels do not drop off the pavement or go onto the pavement shoulder.

When you curve to the left, keep the front wheels close to the right edge of the lane to keep your driver's side rear wheels out of the next lane of traffic.

Clearance

Most recreational trailers are tall and wide. You need to know the height and width of your trailer. Pay attention to road signs indicating reduced clearance such as for overpasses, tunnels, narrow roads and bridges.

This sign is a warning for you to watch for low overhead clearance.



Narrow Bridges

Use caution when entering a narrow bridge with a curved approach. You must be familiar with the amount of off track your vehicle displays and adjust your speed and approach to the curve so that you can enter the bridge safely.

Turning Right

When you are operating a vehicle with a lot of off track and about to turn right at an intersection, be certain you make your turning arc large enough to give your RV trailer room to follow.

If the turning arc of your front wheels is too small, off tracking may cause the back wheels of your trailer to scrape the curb or even leave the road.

You will almost certainly crowd anyone, such as a cyclist, who is travelling on your right side. Running your rear wheels over curbs and sidewalks will damage your tires and could seriously injure pedestrians and cyclists. You may hit a power pole, sign post or lamp standard if your vehicle does not have enough room to turn. This type of collision can damage your vehicle, as well as the object it hits.

Check whether smaller vehicles, motorcycles or cyclists are on the right side of your vehicle whenever you make a right turn. The most dangerous point in a turn is when your truck has made the turn but your RV trailer has not. At this point the right rear-view mirror is turned so that it is almost useless.

Make your turns from the proper lanes wherever possible. When it is necessary to move your vehicle outside your lane to negotiate a sharp turn, it is your responsibility to be certain you can move safely without holding up traffic.

Sharp right turns

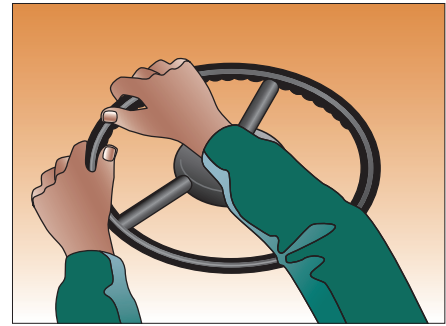
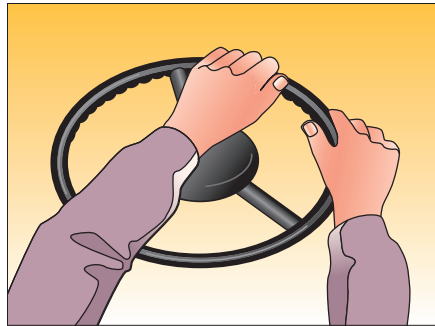
To make a sharp right turn:

1. Position the vehicle one to two metres from the curb on the approach to the intersection.
2. You will need to drive farther into the intersection before starting to turn than you would if you were not towing a trailer.
3. Enter the turn at a low speed. This will allow you to turn the steering wheel more slowly, which will let you make a smoother turn using less energy.

Turning Left

Turning left from a one-way street into a one-way street is similar to making a right turn. In both cases, you must ensure your vehicle's turning arc is large enough to keep the rear wheels of your vehicle from running over or scuffing the curb. In this case, the concern is with the left rear wheels. As with tight turns, it is important to check for pedestrians and cyclists before initiating your turn.

These hand positions are recommended for right- and lefthand turns. Always use both hands to steer your vehicle.



**Driving Tip**

By looking ahead, keeping good space margins, and anticipating road hazards, you can avoid sudden stops and changes in speed. These safe driving habits also save fuel.

Watch for other drivers who travel in any of your vehicle's blind spots.

Seeing and Being Seen

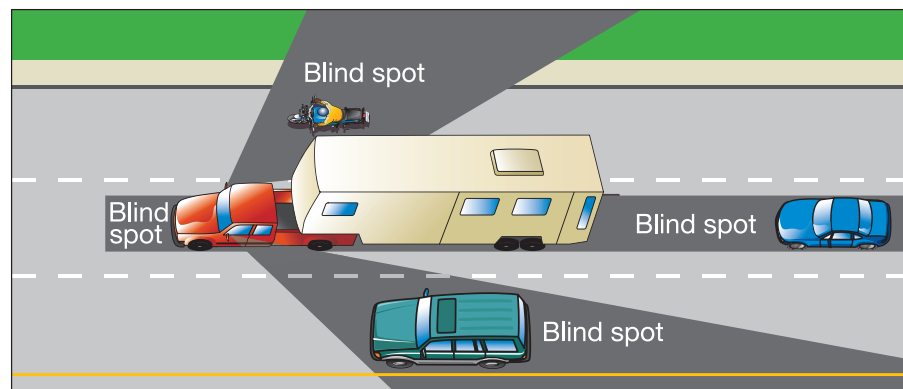
Large vehicles usually offer a better view of the road ahead and to the sides than passenger cars, but large vehicles also have dangerous blind spots.

Big windshields and a high seat position give you a good view down the road but immediately in front of your vehicle is an area where you cannot see anything. The longer the hood on your vehicle the longer the blind spot.

Large side mirrors provide a clear view of the road behind you except for the blind spot immediately behind every vehicle.

Check carefully for vehicles and bicycles that may be travelling in your blind spots. Pay particular attention in slow urban areas where cyclists often share the road.

Always stay far enough behind the vehicle you are following to allow you to make your stops in a smooth, gradual way, even if the vehicle ahead makes a panic stop. Giving yourself enough room to make gradual stops will reduce the likelihood of you hitting another vehicle. It will also allow you to give the drivers behind lots of notice that you are reducing your speed. This will reduce your chance of being hit by a tailgater.



Finally, never assume that the other driver has seen you. Many collisions have occurred because drivers did not see something the other driver expected them to see.

Fast Fact

Convex or spot mirrors may make things look smaller and farther away than they actually are.

Using Your Mirrors

To drive defensively, it is important to know where your vehicle is in relation to other vehicles on the road. Scan the traffic ahead, behind and to your sides constantly. Look ahead for clues that will tell you whether other vehicles are about to change speed or stop. Frequent checks in your rear- and side-view mirrors will alert you to drivers who are passing or getting ready to pass you. These checks will also help you know whether there are vehicles behind you. Give all drivers plenty of warning whenever you are about to stop, change directions or change lanes.

Looking Ahead

You should develop the habit of watching the traffic well ahead of your vehicle. Look for traffic lights, turn signals, pedestrians and vehicles pulling into your lane or making other lane changes. Approach every intersection considering whether the lights are likely to change. When a light has been the same colour for some time it is said to be stale. When you approach a stale green light expect it to change before you reach the intersection. Be prepared to stop. Traffic lights are synchronized on some streets, so by driving at the posted speed you will make every green light. Adjust your driving speed to take advantage of this.

Lane Use

Look ahead for lane-use changes. By watching, you will be prepared if the lane you are travelling in comes to an end or becomes a turning lane.

Be certain that you are in the lane that allows you to go where you want to go.

Passing and Being Passed

Large vehicles travelling at high speeds create varying degrees of air turbulence that can be hazardous to smaller vehicles. Air turbulence is particularly dangerous to cyclists who are much smaller and are likely to be travelling more slowly than large vehicles. Take extra care to be aware of cyclists and give them enough room. The air turbulence from your vehicle can cause them to lose control. The larger your vehicle, the more wind turbulence it will create.

Do not direct other drivers to pass. If you do so, you may be encouraging them to risk a pass they are not skilled enough to safely complete.

However, when other drivers indicate they want to overtake your vehicle, help them to pass safely. Reduce your speed and give them room.

Turbulence

Large trailers can be seriously affected by crosswinds. Be prepared for this. Watch for road signs warning of areas with strong crosswinds, and pay attention to weather reports.

You may also experience turbulence when passing or being passed by large trucks.

If your trailer starts to sway or fishtail, slow down gradually and steer in a straight path if possible. Avoid sudden braking. If your steering is severely affected, pull over and stop.

Choosing Your Route

Choose your routes carefully. Stay on roads suitable for your trailer. When towing a trailer, you will find that freeways and four-lane highways are best for you.

If possible, avoid towing an RV trailer in city traffic. Towing an RV over high mountain passes puts a lot of strain on the truck.

Always prepare for the possibility of having to turn back. Avoid dead end roads, dirt roads or rocky roads where you may not have enough space to turn around.

Intersections

The area where two or more streets meet is the place where drivers are most likely to be confused. Knowledge of the right-of-way rules (found in *Learn to drive smart*) is essential for all drivers. But do not depend on other drivers to obey these rules.

Reduce your risk of a collision in an intersection by following these common sense practices:

- Do not assume you have the right-of-way, even when your right-of-way is controlled by traffic signs or traffic lights.
- When you are planning to turn, position your vehicle in the proper lane well before the intersection. Signal other drivers well in advance to show them you intend to turn. Reduce your speed gradually before entering the intersection. Turn only when it can be done safely.
- Look left and right before entering any intersection. Look for and expect someone to run the sign or lights.
- Enter a limited-view intersection at a speed that allows you to stop your vehicle safely if you need to.
- Look well ahead for stale green lights. Expect them to change. Decide in advance whether you will have to stop to avoid running through the light.
- Remember that a combination vehicle is longer and takes longer to clear the intersection than a single unit vehicle.

When the light you are waiting for turns green, check left, right and ahead for any latecomers before you enter the intersection.

- Do not depend on other drivers to signal or make their turns correctly. Do not depend on other drivers for your safety: they may forget to signal; they may signal and not turn; they may turn into a wrong lane; or they may fail to yield.
- Don't change lanes, pass or overtake other vehicles as you are approaching or going through an intersection.

Give full attention to each and every intersection, lane and driveway. Keep your vehicle under full control.

- Do not use your vehicle's size to force other drivers into giving you the right-of-way. Give the right-of-way; don't try to take it. You must move only when you are certain other drivers have given you the right-of-way.



This sign warns of a roundabout ahead.

Traffic Circles and Roundabouts

These are found in some areas to help ensure safe passage of traffic through an intersection without necessarily stopping the flow of the traffic.

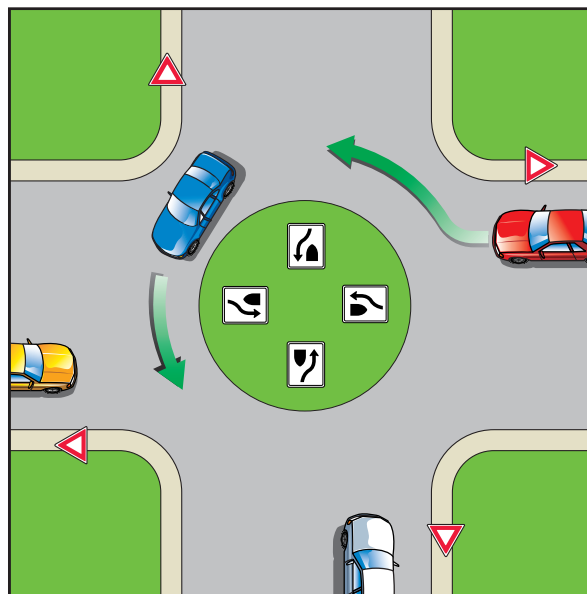
Traffic Circles

Traffic circles are mostly found in residential neighbourhoods.

When using a traffic circle:

- Slow down as you approach the circle.
- Obey any posted traffic control signs, such as "Yield" or "Stop" signs. If there are no traffic control signs, treat the intersection as an uncontrolled intersection.
- Yield to any traffic in the traffic circle. If another vehicle arrives at the traffic circle at the same time as you do, yield to the vehicle on your right.
- Go around the traffic circle to the right (i.e., in a counter-clockwise direction).

You must turn right to enter a traffic circle and right again to leave it. Yield to vehicles that are already in the traffic circle. If another vehicle arrives at the traffic circle at the same time as you do, yield to the vehicle on your right.



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Driving Tip

Emergency vehicles displaying flashing lights and sirens always have the right-of-way. If an emergency vehicle is approaching, avoid blocking a traffic circle or roundabout. Stop for the emergency vehicle before entering, or exit the traffic circle or roundabout and then stop to allow the emergency vehicle to pass.

Roundabouts

Roundabouts are generally larger than traffic circles.

Some roundabouts have more than one lane. Lane use signs and markings may be displayed at the approaches to indicate where you can go in each lane when you are in the roundabout. Make sure you know where you want to go – and are in the proper lane to get there – before you enter a roundabout.

Roundabouts often have a truck apron around the central island which large vehicles may use to help them to get through the roundabout.

When using a roundabout:

- Make sure you know where you want to go before you enter a roundabout, and enter the correct lane to go where you want to go. Lane use signs or road markings will indicate which lane you need to use. If you want to turn left, make sure you are in the left lane. If you intend to turn right, use the right lane. If you intend to go straight, you may use either the left or right lane.
- Slow down as you approach the roundabout.
- Yield to pedestrians who may be crossing or about to cross in the crosswalk located in advance of the roundabout.
- Yield to any traffic already in the roundabout.
- Go around the roundabout in a counterclockwise direction. Do not change lanes in a roundabout.
- Do not ride alongside large vehicles such as trucks in buses in roundabouts, as they may need to use more than their lane to go through the roundabout.
- If you entered the roundabout in the left lane, stay in that lane. You may either go straight or turn left from that lane.
- When exiting, signal “right” in advance of your exit location.

As you exit the roundabout, be prepared to yield to pedestrians who may be in the crosswalk where you are exiting.

Slow down when approaching a roundabout and yield to traffic already in it. Stay in the same lane that you approached the roundabout from. Do not drive alongside large vehicles such as trucks and buses in roundabouts.





This sign warns to keep away from large vehicles such as trucks and buses in roundabout.

Take care when driving through a roundabout when towing an RV trailer. Due to your vehicle's off track, you may need to take up more than one lane when travelling through a roundabout. Make sure there are no vehicles in the lane beside you as you drive through the roundabout.

In the example on the previous page, the red car has entered the roundabout from the south in the right lane after first yielding to vehicles in the roundabout. The driver may either turn right at the east exit or continue straight and take the north exit.

The blue car entered from the south in the left lane, and has merged into the left lane in the roundabout. Because the blue car entered from the left lane, the driver cannot immediately turn right at the first exit (east), but can take either the north or west exit.

The truck towing an RV trailer entered the roundabout from the east in the left lane and the driver is going to take the south exit. Note that due to the length of the combination, the RV trailer is partially in the right lane.

The driver of the green car must yield to the truck and RV trailer already in the roundabout.

Alleys, Lanes and Side Roads

Fast Fact

The maximum speed in a lane or alley is 20 km/h unless otherwise posted.

If you drive from an alley, lane or side road onto a highway, you must:

- Stop your vehicle immediately before you drive across the sidewalk or sidewalk area.
- Yield the right-of-way to pedestrians in the sidewalk area and to motor vehicles on the highway.

Railway Crossings

Railway crossings require extra caution. Large vehicles need more space and more time to respond to conditions, so you need to be particularly careful to check whether a train is in the area. You also need to note the condition of the track and whether your vehicle will have any difficulty making a crossing.

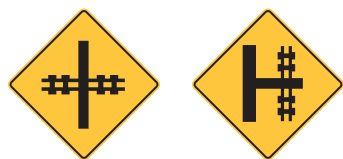
Controlled and uncontrolled crossings

All vehicles are required to stop at all controlled railway crossings if signalled to do so. A controlled crossing is one that has a flagperson, stop sign, crossing gate or an electric or mechanical signaling device.

Where you must stop for a railway crossing:

1. Stop five to 15 metres away from the railway crossing.
2. Look both ways and listen for any approaching trains.
3. Move forward when safe. Do not shift gears while crossing.

Do not park any vehicle within 15 metres of the nearest rail of a railway crossing.



Two road signs that alert you to a railway crossing ahead.

Do not cross a railway track under any circumstances if a railway crossing gate is in the down position.

Minimize your crossing time – Before you cross a railway line, check to ensure you can see the track is clear far enough to give yourself at least 10 seconds to cross – more if your vehicle requires it or if you are crossing more than one track at a time.

You must not shift gears while crossing railroad tracks.

Watch for humpback crossings – Over time, humps often form at railway crossings. They present a danger to many low-clearance vehicles.

Acts of Nature

No matter how well you prepare yourself and your vehicle, there will always be conditions beyond your control that you will have to respond to when driving. These include a wide variety of weather conditions and the hazards brought on by darkness.

Fast Fact

About one-in-25 crashes in B.C. are caused by wildlife collisions. In 2007, five people were killed and 449 people injured in collisions in which animals were a contributing factor.

BC Traffic Collision Statistics, Police-attended injury and fatal collisions 2007

Each year in B.C., over 4,700 wild animals including deer, moose, elk, bears and coyotes are reported killed by collisions with vehicles.

BC Ministry of Transportation statistics

Animals on the road

In B.C., animals on the road are a major hazard. Crashing into a large animal can cause damage and injury, not just to the animal, but to you and your passengers.

To help prevent a collision with an animal:

- Watch for animal crossing signs when driving through farming or wooded areas. Slow down in these areas.
- Slow down and use caution when you see wildlife on or near a highway, so you can react in case it crosses your path.
- Be alert, especially at dusk or dawn.
- Look for sudden, unusual spots of light on the roadway at night. This may be the reflection of your headlights off an animal's eyes.
- Take extra caution in spring and fall - vegetation growth in the ditches along the side of the road in spring is an attractive source of forage for many wildlife species, and in fall, many animal species are on the move during the mating season, causing an increased hazard.
- Remember that wild animals often move in herds. If you see one animal, there are likely more.

If an animal is directly in front of you:

- Check your rear-view mirror to see if there is a vehicle behind you.
- Assess the risks and decide on an action. Can you stop safely? Would vehicles behind you be able to stop safely? Can you steer around the animal? Would it be better to hit the animal and risk a crash?

- Slow down but resist the urge to slam on your brakes when you see an animal. This could send your vehicle out of control.
- Leave a wide margin when you drive around an animal. A frightened animal may run in any direction.
- If the animal is large and you can't stop in time, brake firmly and steer to strike the animal at an angle. Let up on the brake pedal just before hitting the animal. This will cause the front of your vehicle to rise and reduce the chance that the animal will come through the windshield.

Coupling

Always take care when coupling your truck to a recreational trailer.



Driving Tip

If the truck and trailer are lined up, you should be able to see an equal portion of each side of the trailer in each mirror.

1. Block the trailer wheels.
2. Ensure that the area is clear and that your trailer is ready to be coupled to your truck. It is helpful to have another person act as a guide.
3. Inspect the coupling device on the truck. In the case of a fifth wheel, make sure the coupler jaws are open.
4. Check the trailer hitch or kingpin and pin box. Ensure they are in good condition.
5. Enter the truck and start the engine. Release the parking brake and sound the horn. Back the truck slowly to the front of the trailer. Ensure the truck is in direct line with the trailer and that the fifth wheel opening or ball is in line with the trailer kingpin or hitch.
6. Stop the truck just before the coupler makes contact with the trailer. Place the truck in Park (or low gear if manual transmission), and set the parking brake.
7. Exit the truck and check that:
 - the fifth wheel or ball hitch is securely attached to the truck (if fifth wheel, make sure it is tilted down and is locked in place on the truck bed).
 - the trailer is slightly higher than the middle of the fifth wheel or ball and placed so that it lines up with the middle of the coupling device. If necessary, adjust the height of the trailer by cranking the stabilizers up or down.
8. Re-enter the truck. Release the parking brake and sound the horn. Back slowly under the trailer. Stop when you feel or hear the kingpin lock into the fifth wheel (with a ball and hitch, stop when the ball is centred under the hitch). Set the parking brake and put the truck in Park (or low gear if manual transmission).

**Driving Tip**

Check that all the trailer lights work after they are connected to the truck, including clearance lights, tail lights, brake lights and licence plate light.

**Driving Tip**

Always block the trailer wheels. The blocks are the only means of holding the trailer in position once you have disconnected it from the truck.

9. Exit the truck and inspect the coupling to see if:
 - **Fifth wheel connection:** the fifth wheel jaws have engaged the kingpin and are closed and locked (the safety latch is over the locking lever).
 - **Ball and hitch:** lower the trailer hitch over the ball, then lock the hitch.
10. Connect the cable for the trailer brakes and lights.
11. Raise the trailer stabilizers slightly and remove the trailer wheel blocks.
12. Re-enter the truck and release the parking brake.
13. Move the vehicle ahead slowly and apply the trailer brakes to check that they work and that the hitch connection is secure.
14. Set the parking brake and place the truck in low gear (or Park if automatic transmission).
15. Exit the truck. Raise the stabilizers completely. Before getting back into the truck and driving away, walk all around the trailer to ensure it is clear.

Uncoupling

Always take care when uncoupling your truck from an RV trailer. Follow these steps:

1. Place the trailer where you want to leave it. Ensure the surface is level and will support the trailer. Also make sure the truck and trailer are in a direct line.
2. Set the parking brake and place the truck in Park (or low gear if manual transmission).
3. Exit the truck. Block the trailer wheels.
4. Lower the stabilizers until they touch the ground and pressure is released off the hitch. Check the trailer stabilizers or pads to ensure the surface is firm enough to support the trailer. You may want to place blocks of wood beneath the stabilizers if you are parking on hot asphalt or some other soft surface.
5. Disconnect the cable for the trailer brakes and lights.
6. Pull the fifth wheel or trailer hitch handle lock pin to release the coupler/jaws. With a ball and hitch connection, raise the stabilizers so that the ball will clear the hitch.
7. Re-enter the truck. Release the parking brake and slowly drive the truck forward until the truck begins to clear the trailer. Set the parking brake, place the truck in Park (or low gear if manual transmission), and exit the truck.

8. Re-check the trailer stabilizers or pads to ensure the trailer is level and the surface supports the trailer.
9. Re-enter the truck. When safe, slowly drive the truck forward away from the trailer.

Parking

It is important to ensure your vehicle stays in place when parked. Use the following precautions to prevent a runaway vehicle:

- Set the parking brake in the truck.
- Place the transmission in the lowest forward or reverse gear or park.
- Stop the engine. Lock the ignition and remove the ignition key.
- If you are parking on an upgrade, always turn the wheels towards the centre of the road.
- If you are parking any vehicle on a downgrade, always turn the wheels towards the edge of the roadway.
- You should block the wheels of any large vehicle parked on even a slight grade.



Driving Tip

A simple method of backing up your trailer is to position your hands at the five o'clock and seven o'clock positions on the steering wheel.

Then, using both mirrors, turn the steering wheel in the direction you want to go. For example, if you want your trailer to go left, move your hands to the left. This will actually turn your steering wheel to the right.

Backing Up

Backing up with a trailer is different than backing up a single vehicle. It is a manoeuvre that must always be done with extreme caution. With few exceptions, you will be responsible for any crash that happens when you are backing up. This manoeuvre becomes dangerous any time you don't make certain the way is clear.

Investigations of crashes that involved a backing-up vehicle show that these crashes are usually caused by drivers who did not see something they should have seen. Follow these tips:

- Check the rear by walking behind the trailer to make sure the way is clear.
- Check for objects near your intended path such as electrical and water hookups, and overhead objects such as tree branches.
- Have someone help you by acting as your guide. Choose a guide that is reliable. Make sure you agree on communication signals. Remember, you are still responsible. Position your guide where there is a clear, continuous view of the backing path your vehicle will follow. You must be able to see the guide throughout the manoeuvre.
- Back up slowly, at walking speed. Sound the horn before backing up and at least once every vehicle length to warn other road users.
- If possible, back toward the left side of your truck where you can see the trailer over your left shoulder. This is easier than backing toward the right side – called the blind side – of your truck.

Avoid turning the steering wheel too much and don't hold it in the turned position too long. This could result in jackknifing the trailer. If this happens, you will have to pull forward before you will be able to try backing up again.

Disabled Vehicles

Any vehicle presents a hazard when it is parked on the side of a road. Because of their size, large vehicles present more significant hazards. You should put out warning devices if you park your RV at the side of the road in an area not designated for parking, such as:

- two red flags that measure at least 30 centimetres by 30 centimetres, or two warning devices that have been approved for daylight use – these may include flares, fuses and reflectors
- flares, fuses, reflectors and red lanterns approved for night use

If your vehicle becomes disabled:

- move it as far off the travelled portion of the highway as possible
- place warning devices approximately 30 metres ahead and 30 metres behind the disabled vehicle

Note: It is a good safety practice to place additional warning devices further than 30 metres from your vehicle.

Personal Safety

Carbon monoxide poisoning

Carbon monoxide poisoning is an ever-present danger when you operate a motor vehicle. Carbon monoxide is a gas that can seep into a driving compartment and make you dizzy or drowsy. Too much of it will make you pass out, which will almost inevitably result in a crash if you are driving. Carbon monoxide can kill you if you continue to breathe it in after you pass out.

Carbon monoxide is especially dangerous because it is odourless, colourless, tasteless and difficult to detect. It is in the exhaust of every motor vehicle. Because it is so difficult to tell when carbon monoxide is present, it is essential that you frequently check your exhaust system for leaks to ensure that no exhaust fumes are entering the driver's compartment of your vehicle.

Never run your engine in a closed garage. Don't follow any vehicle too closely, and maintain a safe distance between your vehicle and the one in front of you when you are stopped at traffic lights or stop signs.

If you feel dizzy or drowsy while driving, pull over to the side of the road. Stop. Get out and get plenty of fresh air.

Fast Fact

It is estimated that the correct use of a lap and shoulder belt system reduces the likelihood of death in a motor vehicle crash by 50 per cent.

Seatbelts

There's no question – seatbelts do save lives. Transport Canada estimates that wearing seatbelts has saved an estimated 2,400 lives and prevented 55,000 injuries in the past 10 years.

During a crash, seatbelt systems reduce the risk of occupants striking the interior of the vehicle, colliding with other passengers or being ejected. If you are belted in, you are much less likely to become injured or knocked out in a collision. Staying conscious gives you a better chance of getting out of your vehicle quickly if it catches fire or lands in water. Even during normal driving conditions, a seatbelt can prevent you from bouncing around the interior of your vehicle, which will help you maintain better control on rough roads or during collision-avoidance manoeuvres.

Many people think they can protect themselves in a collision. You cannot hold yourself back during a collision, no matter how strong you are.

Thousands of kilograms of force work against unbelted persons during the rapid deceleration that takes place during a crash.

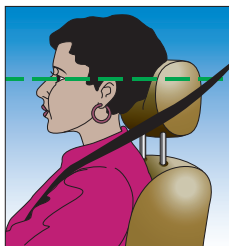
Use the following rules to ensure your seatbelt fits correctly:

- place the lap belt low over the pelvis, not over the soft stomach area – make certain it is snug
- ensure the shoulder strap is snug across the chest
- never place the shoulder strap under the arm or behind the back
- remove all slack

Airbags and Head Restraints

Even if your vehicle is equipped with airbags, you must wear your seatbelt. Airbags can seriously injure unbelted occupants. You must allow at least 25 centimetres (10 inches) between your breastbone and the airbag unit in the steering wheel. This distance will minimize the risk of injury if the bag deploys.

If your vehicle has head restraints, it is important to adjust them to fit correctly. This will reduce the risk of soft tissue neck and back injuries during a rear-end crash. Raise the head restraint so the top is at least level with the top of your ears; higher is even better.



Make sure your head restraint is adjusted to the height that is right for you.



If you are in a crash and your head restraint is not properly adjusted, this can be the result.

Cellphones and Other Devices

Research shows that using a cellphone or other electronic communication device while driving significantly increases the risk of crashing. As of January 1, 2010, all drivers are prohibited from using hand-held electronic devices while driving. Drivers are prohibited from operating or holding hand-held cellphones or other electronic devices, sending or reading emails and/or text, operating or holding hand-held music or portable gaming devices, and manually programming or adjusting GPS systems while driving.

These restrictions do not apply for calling 9-1-1 to report an emergency.

Drivers in BC's Graduated Licensing Program (GLP) are also restricted from operating hands-free electronic devices while driving. Non-GLP drivers are permitted to use hands-free cell phones and devices that only require touching a single button to activate or de-activate, and where that single button is located in a fixed and secure location. This includes pre-programmed or voice-activated GPS devices. Two-way radios used by industry (e.g., trucking, logging, oil and gas) are also permitted.

Even if you do need to make or receive a hands-free call, it is safer to pull over to the side of the road as soon as it is safe to do so.

Fast Fact

If you are convicted of impaired driving and you caused a crash, the cost of your vehicle insurance will increase. In addition, ICBC will not pay to repair or replace the vehicle. ICBC can also recover from you all costs associated with the crash, including any victim's claim.

Impairment

Your life and the lives of others depend on your ability to remain alert and fully functioning when you are behind the wheel. Alcohol, illicit drugs (for example, marijuana and cocaine), and even some prescribed drugs or over-the-counter medicines can reduce (impair) your ability to function safely.

If you are convicted of driving while impaired, the Superintendent of Motor Vehicles will review your driving record and may increase any length of time the courts have prohibited you from driving.

If you drive while prohibited and are stopped by the police, the vehicle you are driving may be impounded for a minimum of 60 days. On a second offence the vehicle may be impounded for a minimum of 90 days.



Prescribed and over-the-counter drugs

Caution is always needed when you use certain prescribed or over-the-counter medications, but using medication when you drive is particularly risky. Antihistamines, sedatives, tranquilizers and even some cold remedies can cause drowsiness and decreased alertness. Read the warning on the label to determine whether there are any side effects that may impair your ability to drive safely. If in doubt, check with your pharmacist or physician. Certain combinations of seemingly harmless medications can markedly decrease your ability to function safely.

Penalties for impaired driving

Offence	Possible Penalty
Driving while impaired	<ul style="list-style-type: none"> • Immediate 24-hour prohibition from driving. Your vehicle may also be impounded for 24 hours. You pay the cost of towing and storage of your vehicle. <p>Note: You may be prohibited if a police officer considers your ability to drive to be affected by alcohol or drugs. You do not have to have a Blood Alcohol Content (BAC) level of over .08.</p> <p>If you receive two or more roadside prohibitions within a two-year period, you may face a much longer driving prohibition.</p> <p>You'll also need to take a remedial program for drinking drivers and have an ignition interlock device installed in any vehicle you drive for a period of time after completing the remedial program.</p> <p>If you receive two or more roadside suspensions within a three-year period, you could also pay a Driver Risk Premium.</p>
Blood Alcohol Content (BAC) reading over .08 BAC limit Refusing to give a breath or blood sample Driving while impaired	<ul style="list-style-type: none"> • 90-day administrative driving prohibition (ADP) • If charged and found guilty under the <i>Criminal Code of Canada</i>, you will: <ul style="list-style-type: none"> - lose your licence for a year (first conviction) - be fined (\$1,000 minimum) - be prohibited from driving (one year minimum) <p>You could also go to jail.</p> <p>You'll also be required to take a remedial program for drinking drivers and be required to have an ignition interlock device installed in any vehicle you drive for a period of time after completing the remedial program.</p> <p>Note: Drivers with three or more vehicle-related <i>Criminal Code of Canada</i> convictions will have their licences suspended indefinitely.</p>
Impaired driving causing injury or death	<p>In addition to the penalties shown above:</p> <ul style="list-style-type: none"> • Loss of licence for up to 10 years • Unlimited fine • Jail sentence of up to 14 years

You risk a lot by driving impaired. There are offences under British Columbia's *Motor Vehicle Act* and under the *Criminal Code of Canada*. The penalties are significant and can affect you for a long time.

As well, you will be assessed driver penalty points. If you have repeat convictions, you will face harsher penalties. You may even lose your driving privileges for life.

There are still other costs if you are caught driving while impaired:

Money – If you are convicted of impaired driving and you cause a crash, your insurance claim may be denied, including claims for your own injuries, or damage that you might cause to your vehicle, or to other people or property. You may then be responsible for paying these costs. As well, your insurance rates will increase and you will receive a driver penalty bill.

In order to be re-licensed, you may be required to take a remedial program for drinking drivers at your cost. As well, you may be required to have an ignition interlock device installed at your cost in any vehicle that you drive after taking the remedial program.

Job – An impaired driving conviction could affect your ability to earn a living. It will show on your driving record which you are required to provide to your employer under the National Safety Code.

Travel – An impaired conviction could prevent you from being bonded or from travelling to certain countries, including the U.S. and Mexico.

Fatigue

Long road trips and driving day after day can easily cause you to become fatigued. Over an extended period, this can lead to chronic fatigue. Mental fatigue affects your ability to make good decisions.

There is no safe substitute for proper rest or sleep. Check yourself frequently to see whether the effects of fatigue are starting to show when you are driving for long periods. If you are relying on stimulants, such as coffee, to help you stay awake or if you are having trouble sleeping, you are likely suffering from fatigue. Pull over in a safe location and get some sleep.

Emotions

Your emotions can also impair your ability to drive safely. Investigators have found that the causes of some crashes are directly linked to emotional disturbances that distracted drivers and prevented them from focusing on the task of driving.

Safe driving demands your full attention at all times. You will be exposed to drivers of all kinds – from the most skilled to those who surprise other drivers with unexpected manoeuvres.

Your safety depends on your ability to give your complete and constant attention to your driving while you are behind the wheel. There is no room for road rage or any other distracting emotion.