

# Winter Driving

**Be Prepared, Be Safe!**



**Ontario**



## Traveller Information Services

GTA: 416-235-4686

Provincial TTY:

1-866-471-8929

Niagara Region TTY:

905-704-2426



This information is also available in the blue pages of your telephone directory OR on the Internet: [www.ontario.ca/511](http://www.ontario.ca/511)



**This Winter Driving brochure can be found online at:**

[www.ontario.ca/winterdriving](http://www.ontario.ca/winterdriving)



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## Adjusting to Winter Conditions

Ontario winters can be challenging for motorists. Safety is a top priority of the Ministry of Transportation. Every effort is made by the ministry and its contractors to keep highways safe and to provide efficient winter maintenance services for the travelling public.

Weather conditions can be unpredictable, placing extra demands on your vehicle and your driving skills. Ensure you are well prepared for winter roads and always adjust your driving speed to road and weather conditions.

## Preparing for Driving in Winter

**Stay alert, slow down, and stay in control** — the three key elements of safe winter driving. Drive according to highway and weather conditions. Maintain a safe following distance between you and the vehicle in front of you to avoid situations where you may have to brake suddenly.

## Be Prepared — Is Your Vehicle Ready?

Get your vehicle winter-ready with a **maintenance check-up**. Don't wait for winter to have your tires, battery, belts, hoses, radiator, oil, lights, brakes, exhaust system, heater/defroster, wipers and ignition system checked.

Make sure that your vehicle is **mechanically ready** for winter conditions. Keep your **fuel** tank sufficiently full — at least half a tank is recommended.

Always be sure you have **sufficient windshield washer fluid** in the reservoir. You may wish to keep an extra jug in the vehicle.

**Clear snow and ice** from all windows, lights, mirrors and the roof.

After starting your vehicle, wait for the fog to clear from the interior of the windows to ensure good visibility all around.

**Have your tires checked** before winter begins. Remember to check tire air pressure frequently, as it decreases in cold weather. Also, double-check the tightness of each tire's wheel nuts to ensure your tires have not come loose; this is especially important for those who seasonally change their winter and all-season tires.

The condition of your vehicle's tires is important. Worn or damaged tires can affect your ability to drive safely. It is best to replace tires before the tread depth reaches the regulatory minimum of 1.5 mm.\* Studies indicate that a 3 mm deep tread can stop a vehicle on wet pavement in a 25% shorter distance than a tire with a 1.5 mm deep tread. Drivers should check the manufacturer's wear indicator mark on tires to see if they need replacing. All tires have tread wear indicators, which are small bars of rubber found between the tread blocks of a tire. When the tread is worn flush with the tread wear indicators, the tire has reached its wear limit and must be replaced as it no longer provides sufficient traction in the rain or snow.

Regular or all-season tires, including wide and high-performance tires, may be adequate in some areas, but may not be suitable for driving in the snowbelt regions of southern Ontario and throughout the north. If you live and drive in these areas, consider using **winter tires**. They provide better traction, braking and handling during frost, snow, slush, and particularly under icy conditions. Installing four winter tires provides greater control and stability. Never mix tires of different tread, size and construction. Also, consider traction and stability control options when selecting your next vehicle.

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\* Recommended tread depth from the Highway Traffic Act. Regulations 611 and 625.



## Winter Driving Survival Kit

It's a good idea to keep a winter survival kit in your vehicle. Having essential supplies can provide comfort and safety for you and your passengers should you become stranded.

Recommended items include:

- Ice scraper/snowbrush
- Shovel
- Sand or other traction aid
- Tow rope or chain
- Booster cables
- Road flares or warning lights
- Fuel line antifreeze
- Flashlight and batteries
- First aid kit
- Fire extinguisher
- Small tool kit
- Extra clothing and footwear
- Blanket
- Non-perishable energy foods – e.g., chocolate or granola bars, juice, soup, bottled water
- Candle
- Matches or lighter

**Did you know?** Candles that provide light will also generate some heat for drivers and passengers while awaiting assistance.

## Be Prepared! — Before Heading Out

Wear **comfortable clothing** that doesn't restrict your movement while at the wheel. Keep warm clothing for getting out of your vehicle.

If you are travelling a long distance, **plan your route** ahead of time. Let someone know of your destination and expected time of arrival.

**Check weather and road conditions before heading out.** You may need to allow yourself extra time for travel, or wait until conditions improve. Checking weather websites for local/regional forecasts and radar images will assist you with your travel decisions. Additional information is available at the ministry's Traveller Information Service website at: **[www.ontario.ca/511](http://www.ontario.ca/511)**

You can also call the Ministry of Transportation province-wide Traveller Information Service at 511 for provincial highway information. Highway conditions are updated regularly.

If you experience car trouble, we recommend that you **stay in your vehicle** to avoid personal injury.

It is dangerous to stop on the shoulder of a 400-series highway and this should only be done in an emergency. If you must stop, drive onto the shoulder. In non-emergency situations, exit the highway at an interchange or at the nearest service centre.

On any other roadway, drivers must be off the road, not impeding traffic, and lawfully parked to use cell phones or other hand-held devices.

It is illegal for drivers to talk, text, type, dial, or email using hand-held cell phones and other hand-held communications and entertainment devices. Using a hand-held device while driving carries a fine of \$155. Hands-free use and emergency calls to 911 are allowed.

**Remember, dialing 911 on your cell phone will connect you with the nearest emergency services contact centre. Please use 1-888-310-1122 for non-emergencies.**

### Be Prepared

To ensure you are prepared to handle winter road conditions, consider an advanced driver-training course that teaches emergency driving skills.



## Winter Driving — Handling Your Vehicle

**Braking** Your vehicle may have Electronic Stability Control (ESC) and/or an Anti-lock Braking System (ABS). Make sure you know how to use your braking system in all weather and road conditions. Consider taking an advanced driving course that teaches emergency driving skills.

**How to Regain Control of Your Vehicle in a Skid** A skid happens when your wheels lose traction on a slippery surface. Skids can involve the front, rear, or all four wheels. Most skids result from driving too fast for road or traffic conditions. Sudden or hard braking, going too fast on a curve, or accelerating too quickly can cause your vehicle to skid and even roll over.

Once in a skid, steer in the direction of the skid. To do this, look where you want your vehicle to go and steer toward that spot. Be careful not to oversteer. If you are on ice and skidding in a straight line, shift to neutral or step on the clutch pedal.

To find out how to regain control of your vehicle in a skid, visit the Driver's Handbook Online at:

[www.mto.gov.on.ca/english/dandv/driver/handbook/section2.11.6.shtml](http://www.mto.gov.on.ca/english/dandv/driver/handbook/section2.11.6.shtml)

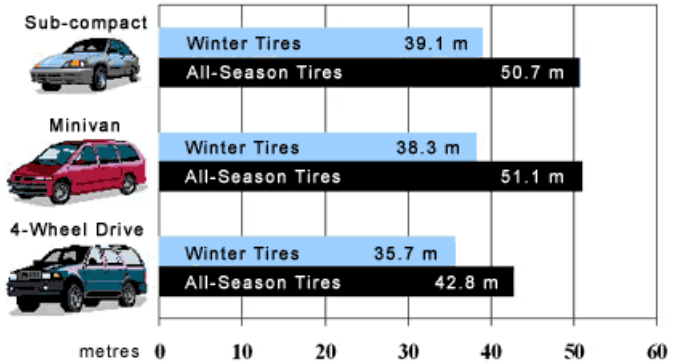
### Remember:

It takes vehicles longer to stop in winter weather conditions and driving downhill.



**Stopping Distances** In winter driving conditions, it takes all vehicles longer to stop on snow-covered roads. The winter tire and all-season tire stopping distance comparison chart below is based on stopping in a straight line from a speed of 50 km/h.


- 20°C with 3 to 5 cm of compacted snow and ice on asphalt surface.  
 Vehicles equipped with automatic transmission and anti-lock brakes.  
 Tests in 4-wheel drive vehicle conducted in all-wheel drive mode.



Residents of Northern Ontario and out-of-province visitors can legally use studded tires. The stopping distances of studded tires are comparable to those of winter tires, under most winter conditions. Vehicles equipped with studded tires have a slightly shorter stopping distance on wet ice. On bare pavement the stopping distance of studded tires is longer.

You should limit the use of cruise control on wet, snowy or icy pavement. Under these conditions, cruise control may cause your vehicle to accelerate in an unpredictable manner, possibly reducing your reaction time and ability to control your vehicle.

**Did you know?**  
 That winter tires that are in good condition can shorten braking distances by as much as 25%.



Turn on  
your vehicle's  
full lighting  
system in  
poor visibility.

## Winter Driving — On the Road

**Spacing** It takes longer to stop on a slippery road. It's important to leave plenty of space between you and the vehicle ahead. A guide to safe spacing under normal driving conditions is the two-second rule.

### **Two-second Rule:**

1. Pick a marker on the road ahead, such as a road sign.
2. When the rear of the vehicle ahead passes the marker, count "one thousand and one, one thousand and two".
3. When the front of your vehicle reaches the marker, stop counting. If you reach the marker before you count "one thousand and two", you are following too closely.

In winter, and especially during poor weather conditions, double the two-second rule.

**Snowy Roads** Snow on a road may be hard-packed and as slippery as ice. It can also be rutted, or it can be smooth and soft. Wet snow can make for slushy roads. Heavy slush can build up in the wheel wells of your vehicle and can affect your ability to steer. Remember, look far ahead as you drive, so you can recognize hazards and have plenty of time to respond. Adjust your driving to the road and weather conditions. Slow down and avoid sudden turns of the steering wheel, and sudden braking and accelerating, which could cause a skid. Extra caution should be exercised when driving in these road conditions.

**Ice** Be careful when approaching shaded areas, bridges, and overpasses, as these sections of road freeze much sooner in cold weather and stay frozen long after exposure to the sun. Watch out for frost, areas of the road that appear black and shiny, as this can cause your vehicle to suddenly lose traction. Slow down, keep your foot off the brake, and be ready to shift to neutral or step on the clutch pedal as your vehicle crosses these areas.

**Snow and Slush Spray** On snowy, wet and slushy roads, large trucks and buses can throw moisture onto your windshield, leading to a sudden loss of visibility. Always drive defensively and leave enough space to minimize snow spray.

**Visibility** It is critical for drivers to see and be seen in low-light conditions, and when blowing snow and white-outs affect visibility. Whenever visibility is poor, turn on the vehicle's full lighting system.

## **Play it safe!**

Severe winter driving conditions may make you nervous, uncomfortable, or fearful. Stay off the road unless your trip is absolutely necessary. Proper preparation and the right skills will help you face the challenge of winter driving.



## Winter Maintenance Tools

- Road and weather information sensors provide data that assists with decision making on how to best address winter conditions.
- Anti-icing liquids are spread on the road prior to winter storms to increase the effectiveness of plowing early in the storm.
- Stationary, automated anti-icing systems to treat specific bridges.
- Truck-mounted electronic control equipment spreads salt or sand to ensure that correct amounts are distributed.
- De-icing liquids are added to dry road salt to melt ice and snow faster. “Pre-wetted” salt also tends to stay on the road better than dry salt alone.
- Global positioning systems and remote data collection to help manage winter snow and ice control operations.
- A tow plow is a full-length, trailer-mounted plow blade, capable of clearing an additional lane of traffic.



## Snow and Ice Control Practices

Winter maintenance crews monitor weather conditions and plan and adjust operations as required to address precipitation type, intensity and duration. Updated highway conditions are reported at least four times daily, or immediately as highway conditions change. Despite the best efforts of the ministry and its contractors, extreme weather requires additional time and effort to clear highways.

Ontario's snow and ice control standards are consistent with the best practices used across North America. Highway type and traffic volumes determine how quickly highways will be serviced.

A severe or long storm may delay restoration to normal conditions, even with the best efforts of highway crews.

Snow and ice control operations, including plowing and salting, are carried out in response to a storm, with priority given to main highway lanes. It will take longer for maintenance equipment to fully service ramps, shoulders and low-volume highways.

Snow and ice control standards indicate a specified time for highways to be restored to normal conditions after a storm has ended. The standard varies depending on traffic volume and road type. For example, the standard is eight hours for high volume highways. Some highways with lower volumes are maintained in a snow-packed condition throughout the winter.





**Plowing** Echelon plowing is the practice of staggered snow plows operating across all lanes of a highway in one direction. It is the safest and most efficient snow removal method for multi-lane highways. Plowing in echelon clears all lanes at once by passing a ridge of snow from one plow to the next.

**Leaving Room for Plows** Remain a safe distance back from maintenance equipment when you see blue flashing lights. To do the job right, snow plows and salt and sand trucks must travel slower than regular traffic. Sight lines and visibility near a working snow plow are significantly reduced by blowing snow.

**Stay Well Back to Help Snow Plows do Their Job!** Never pass a snow plow! It is extremely dangerous to pass either between or around snow plows because of whiteout conditions and the ridge of snow being passed between plows.

At no time should a vehicle pass a snow plow. This could result in a severe, even fatal, collision.

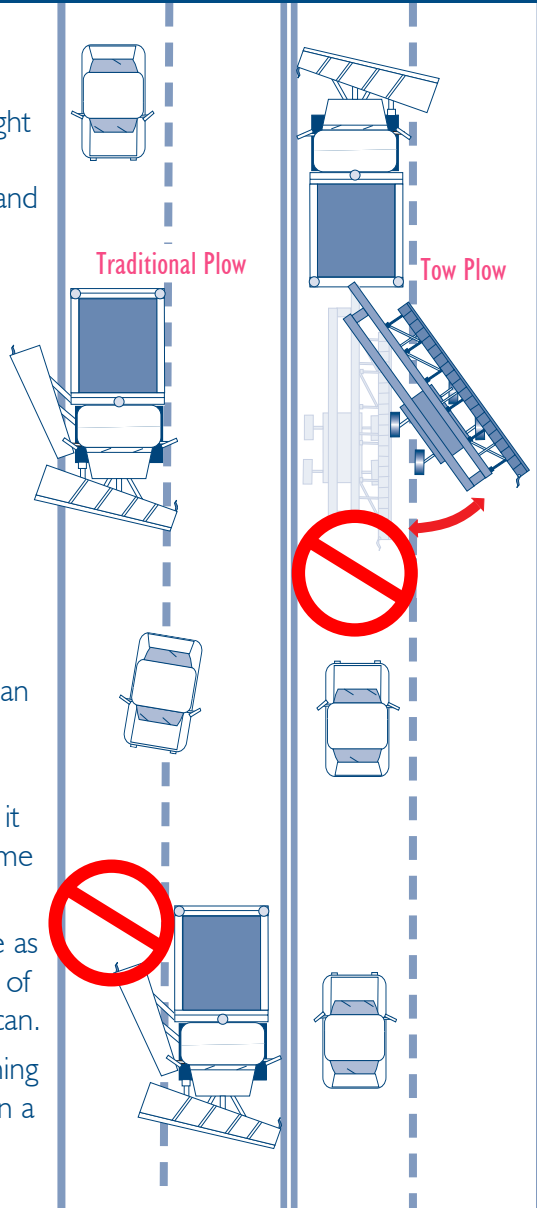
Highway type and traffic volumes determine how quickly highways are serviced.

# Passing a snow plow is dangerous because...

- the large blades on snow plows extend a metre or more ahead and to the right of the snow plow, often extending into the right-hand lane
- snow plows are wider at the front than they appear to be from the rear
- even at reduced plowing speeds, light powdery snow forms a cloud that severely restricts visibility
- the road surface is always better behind the plow than in front of it
- when approaching a tow plow leave extra space as it can change lanes at any time

When encountering an oncoming snow plow, move as far away from the centreline of the pavement as you safely can.

When you see the blue flashing lights of a snow plow, remain a safe distance back.



**NEVER PASS A SNOW PLOW!**

Collisions between snow plows and vehicles have resulted in fatalities.



**Managing Snow and Ice with Salt** Road salt is the most cost effective snow and ice control material available. Timely application of salt prevents snow and ice from bonding to the road surface. For this reason, salt is often spread early in a storm to prevent snow buildup and to aid in snow removal operations. In some areas, anti-icing liquids may be applied directly to the pavement to minimize bonding. The effectiveness of road salt is assisted by the sun, traffic and warmer daytime temperatures. You may notice that salt is often applied in a narrow strip along the centre or high point of the highway. This row of salt develops into a salt-water mixture, which flows across the highway, ensuring the most efficient and effective use of the material.

Sand, salt and anti-icing liquids play an important role in keeping roads safe.

The Ministry of Transportation is investigating ways to control and reduce the use of salt and its impact on the environment, while ensuring highway safety.



**Providing Traction** Sand is used to provide traction on slippery surfaces. Unlike salt, it does not melt snow and ice. Sand is used most often when temperatures are too low for salt to be effective. Sand is also used at higher temperatures if traction is required immediately, particularly on hills, curves, bridges, intersections and snow-packed roads.

**Contracting of Snow & Ice Control Services** Winter maintenance services are provided through contractors, who are directly responsible and prepared for responding to the variety of winter conditions we experience. These contractors are governed by contract standards and specifications.

The Ministry of Transportation sets the standards for snow and ice control services and oversees these contracts to ensure compliance. The ministry audits contract operations to ensure compliance to standards. The ministry has several options available to ensure contractor performance. Consequences for non-performance can be severe.

## Did you know?

Road salt works poorly when temperatures drop below  $-12^{\circ}\text{C}$ . That is why bare pavement can be difficult to restore in extremely low temperatures.



# Maintenance Activities During a Winter Storm

During the winter, ministry contractors provide the following activities:

## **Before a Storm**

Before a storm occurs, crews get prepared and:

- Check for changing road and weather conditions.
- Make sure staff, supplies and equipment are ready and available.
- When it is best to do so, apply anti-icing liquid to the highway surface.

## **During a Storm**

During a typical snow storm, crews will:

- Start spreading salt when the snow starts accumulating.
- Allow time for the salt to do its job.
- Start plowing when there is 2 cm of snow or slush on the travelled portion of the roadway.
- Continue checking road, weather and traffic conditions and adjust operations when required.
- Refuel and reload salt, sand and anti-icing liquids.

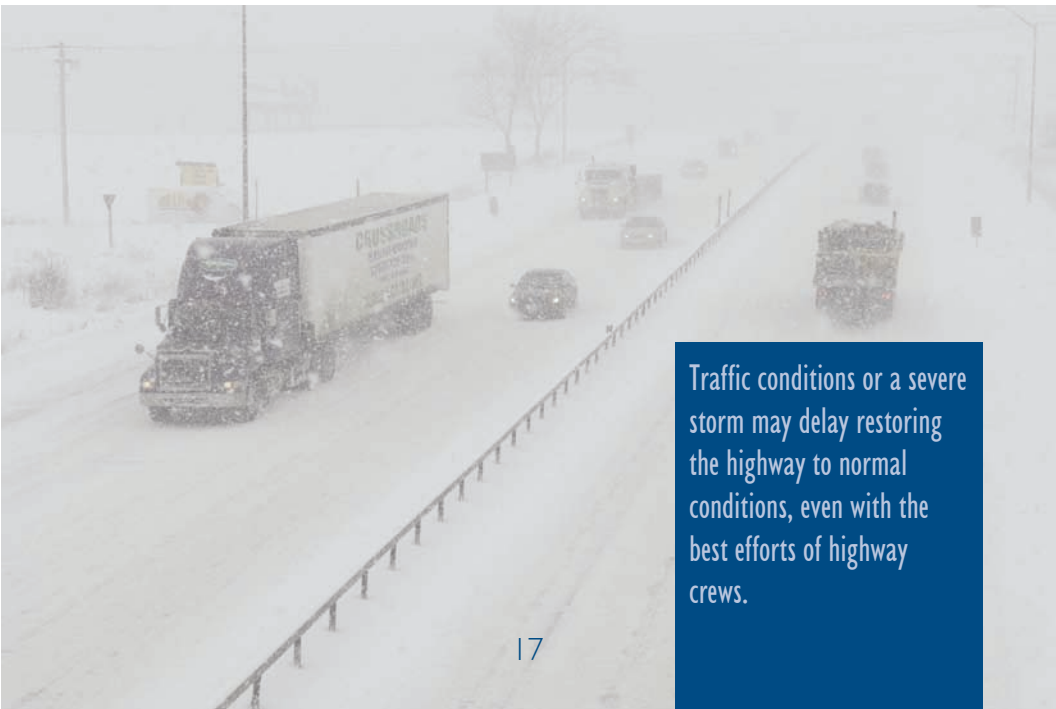
## **After a Storm**

After a typical snow storm, crews will:

- Continue to check road, weather and traffic conditions.
- Continue to plow, salt or sand the highway until the standards are met.
- Remove any remaining snow from turning lanes, ramps and shoulders.
- Remove any snow banks that may cause a hazard.
- Remove any snow or ice that may cause drainage problems at ditches and culverts.
- Check for damage to items such as signs and guiderails that may have occurred during the storm and make necessary repairs.
- Inspect and, if required, repair winter equipment.
- Refuel and restock salt, sand and anti-icing liquids.

## **The Public Should be Aware that in Winter:**

- Traffic conditions or a severe storm may delay restoring the highway to normal conditions, even with the best efforts of highway crews.
- Crews may adjust their plans when a storm's expected intensity, duration or precipitation type changes.
- Crews may need to go over their routes several times during a storm.
- Salt becomes ineffective for melting ice and snow at temperatures below  $-12^{\circ}\text{C}$ . When it is too cold for salt to work, sand is used to improve traction.
- Weather conditions can be variable and unpredictable, placing extra demands on a vehicle and a person's driving skills.
- The Ontario Provincial Police may decide to close highways during extreme weather. Crews assist the OPP with road closures and emergencies when required.



Traffic conditions or a severe storm may delay restoring the highway to normal conditions, even with the best efforts of highway crews.



## Emergency Vehicles

Every day, police, fire, ambulance and other emergency vehicles respond to urgent calls. Time lost getting to their destination could mean the difference between life and death. Seconds can save a life.

**Take Flashing Red and Blue Lights, and Sirens Seriously.** Clear the way. It's the law for any motorist to move out of the way of an emergency vehicle approaching from either direction while operating its bells, sirens and/or flashing lights. Signal, then pull to the right and stop.

When approaching a stopped emergency vehicle in the same direction of travel, either in a lane or on the shoulder of the road, with its lights flashing, motorists are required to slow down and pass with caution. If the road has two or more lanes in the direction of travel, the motorist must move over into another lane, if it can be done safely.



A snowplow is shown from a front-quarter perspective, clearing a road covered in snow. The plow's yellow blade is visible in the foreground, pushing snow to the side. The truck's headlights and emergency lights are on. The background is a snowy, hazy landscape with trees.

## Highway Closures

Extreme weather may result in the closing of highways. **Respect highway closures and do not attempt to drive on these highways until they are re-opened.** Always obey emergency road closing signs and barriers and follow the directions of any police officer. It's for your safety. Remember, it's against the law to drive on a closed highway.

### Did you know?

The police have the authority to close highways. Sometimes, the safest and best action is to close a highway until weather conditions improve enough to allow snow and ice control operations to resume.

## The Unexpected

If you get stuck or stranded, don't panic. Stay in your vehicle for safety and warmth. Wait for help to arrive. If you are in an area with cell phone service and have a cell phone, call for help. **Remember, dialing 911 on your cell phone will connect you with the emergency services contact centre in the area. Please use 1-888-310-1122 for non-emergencies.**

Be careful if you have to get out of your vehicle when on the shoulder of a busy road. If possible, use the door away from traffic.

If you attempt to free your vehicle from the snow, be careful. Dress warmly, shovel slowly, and do not overexert yourself. Do not attempt to shovel or push your vehicle if you have a medical condition. Body heat is retained when clothing is kept dry. Wet clothing, due to the weather or perspiration, can lead to a dangerous loss of body heat.

Draw attention to your vehicle. Use emergency flashers, flares or a Call Police sign. Run your motor sparingly. Be careful of exhaust fumes. For fresh air, slightly open a window away from the wind. Exit your vehicle occasionally to make sure the exhaust pipe is clear of drifting snow before running the engine.

In blizzard conditions, especially overnight, make sure one person stays awake, because help could take some time to arrive. Maintain circulation by moving your feet, hands and arms.

## The Unexpected

Know what to do if it happens to you.



## Remember to be Road-Ready and Weather-Wise

- Make sure your vehicle is winter ready. Keep a winter survival kit in your vehicle.
- Check weather and travel conditions before heading out by visiting the ministry's Traveller Information Service website at: **[www.ontario.ca/511](http://www.ontario.ca/511)**.
- Plan extra time to get to your destination and consider delaying or cancelling your trip in bad weather.
- Notify a friend or family member of your destination and anticipated arrival time.
- Always exercise caution and drive according to road and weather conditions.
- Watch for the flashing lights of snow and ice control vehicles. When approaching them from behind, slow down, stay back and be patient. Do not pass around or between them. **NEVER PASS A SNOW PLOW!**
- Move over for emergency vehicles.

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