



Kansas RTAP Fact Sheet

A Service of The University of Kansas Transportation Center for Rural Transit Providers

Get Ready for Winter Driving

By Anne Lowder

Kansas is known for its variable and sometimes harsh weather. The secret to transporting your passengers safely on slick or snow-covered roads is advanced planning and driving adapted to adverse weather conditions. We'll talk about preparing in advance, changing your driving habits, and a reminder on what to do if you are in an accident.

Driver and passenger preparation

In winter driving, consider both personal preparation, as well as preparation of your bus for unforeseen conditions. While avoiding driving in known hazardous conditions is the wisest choice, storms may strike with little or no warning. Time spent in preparation is your best defense. If winter weather deteriorates, you are less likely to panic and stress out if you are prepared.

The American Red Cross classifies winter storms as, "deceptive killers." According to the U.S. Department of Commerce National Weather Service for Southeastern Kansas 2013 (<http://www.crh.noaa.gov/sgf/?n=winterawareness2013>), 70 percent of vehicle accidents resulting in death are ice-or-snow related. The Kansas Department of Transportation reports that in Kansas 14 percent of vehicle accidents are because of adverse weather conditions. As stated in our Coaching the Van Driver III class, panic and stress are leading factors in making the wrong choice during an emergency.

An essential part of preparing for winter driving is assembling emergency travel supplies. The American Red Cross and the National Weather Service



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have created the following list for emergency winter travel supplies. You should consider the list as merely a suggestion. Modifications to the list are recommended depending on the length of your route, the areas where you are driving and the number of passengers who are likely to be on board at any given time. The important thing is to make a checklist and be sure you have everything you need on your bus, before going out on your route.

Emergency winter travel supplies

- Flashlight and extra batteries
- Ice scraper/snow brush
- Blankets
- Fire extinguisher
- First aid kit
- Bottled water

- Non-perishable high-energy foods, such as granola bars, raisins or peanut butter
- Shovel
- Reflective emergency triangles
- Sand or cat litter (for tire traction)
- Knife
- Pencil and paper
- Candles (even one lit candle can provide emergency heating)
- Matches
- Cell phone
- Red bandana (tie to the antenna when help is needed)

An essential tool to use in winter conditions is the trip manifest. Make sure you notify dispatch if you veer from the manifest. On out of town trips, you should notify dispatch of the route you will be traveling and the expected time of arrival. If dispatch knows the starting point and time, the route and the destination help can reach you much more quickly, in the event of an emergency.

You should not only remain alert during hazardous weather to highway conditions but you should know where you are on your route at all times. Pay attention to mile markers and highway exit numbers. Know the state, county or interstate number for the road on which you are traveling. Know what county or city you are near. And, as basic as it may sound, you should know what direction you are traveling.

Bus prep

In addition to the added perils of winter driving, the change in weather can challenge the vehicle's systems. Freezing temps, salted roads and wintery precipitation can gang up on your bus if

you don't do the following maintenance checks that are specific to winter driving. According to AutoRepairabout.com's Winter Auto Maintenance Checklist, the following steps should be completed to prepare your vehicle for winter weather.

- **Check your antifreeze.** Your antifreeze is an essential part of your bus's winter protection. Your bus contains a mix of water and antifreeze. Make sure the level is full and the mixture is close to 50/50 to prevent freezing.

- **Inspect your tires.** Tires are your first defense to prevent crashes. Winter is not the time to get cheap about your tires, so take the time to check the tread depth and rotate your tires. The National Highway Transportation Safety Board says you need at least 2/32" of depth to be safe. Check the tread and replace any tires that do not have the correct tread depth. Also, be sure to check your tire pressure. Believe it or not, tires lose a little pressure when it gets cold, so pump them up.

- **Replace your wipers.** What do your windshield wipers have to do with winter weather? Two things: First, anything falling from the sky is going to end up on your windshield, and second, in areas that see snowfall in the winter, you're also driving on roads that may have a lot of sand and salt on them, both of which end up on your windshield. It takes wipers that are in top shape to keep your windshield clean and safe.

- **Check your windshield washer fluid.** You'll be using lots of washer fluid as you try to keep your windshield clean. Tip: Don't fill your washer fluid reservoir with anything except washer fluid or it will freeze!

- **Inspect your brakes.** Brakes are not a good area to cut corners. Be sure your brakes have enough meat left to get you through the season.

- **Check your engine oil.** KDOT requires you to check your oil on a weekly basis. This should go without saying but be more rigorous about checking and changing your bus's oil and filter during the winter months and remember to use the manufacturer's recommended oil viscosity range for winter.

Change your driving habits in winter

To prevent the weather conditions

Tips for Driving on Slippery Surfaces

- Drive defensively and be prepared for any situation.
- Adjust your speed to the road and weather conditions.
- Allow yourself time and space to stop safely.
- Keep the windshield and windows clear.
- Be sure headlights, wiper blades, and defrosters are in top working condition.
- Make only slight and gentle movements with your brake, accelerator, and steering wheel. Sudden braking or accelerating could cause a skid.
- Allow more time to complete your routes.
- Roads are the most slippery during the first 10 minutes of a storm, so adjust your speed to the conditions and drive with caution.
- Watch out for other drivers.

from controlling your vehicle, you must first anticipate potential problems. This may mean driving cautiously or not driving at all when dangerous weather conditions exist. The National Safety Council's Coaching the Van Driver training recommends driving techniques such as scanning ahead, communicating with other drivers and creating a cushion of safety for your vehicle.

Some road conditions warrant slow and cautious driving. Slippery roads caused by rain, snow, or sleet, and gravel roads, make it much more difficult for you to control your vehicle. Fog, rain and snow reduce visibility and can cause moisture to form on the vehicle brakes. This will increase your stopping distance. These road conditions are especially dangerous because the vehicle may not respond as expected, even though you may respond quickly and diligently. By maintaining a cushion of safety around your vehicle, scanning ahead and increasing your following distance, you will have more time to anticipate and react to potential adverse weather conditions.

- **Slippery surfaces.** Rain both reduces visibility and makes roadway surfaces dangerous. When it rains, drivers should drive more slowly than usual, and by Kansas law, use your low beam headlights and windshield wipers. Increase normal following distance of four seconds to more than one second for each adverse condition. Stopping distances on slippery pavement are from two to ten times farther than on dry pavement. In this situation you have two

adverse conditions (rain and slippery pavement) so increase your following distance to six seconds.

Roads are most dangerous for the first 10 to 15 minutes after the rain has begun to fall, especially if it has not rained for a while. This is because oil from the asphalt and residues left on the road by vehicles mixes with dirt, dust, rubber and rain water to create a slick surface.

Wet pavement, when combined with other factors such as vehicle speed and improper tire pressure, can cause you to lose vehicle control due to hydroplaning. Hydroplaning can occur at 30 mph and its probability increases with speed. When hydroplaning occurs, there is no friction available to brake, accelerate, or corner. A gust of wind or even a slight turn could create an unpredictable and uncontrollable skid, especially with oversize transit vehicles. When roads are wet, reduce your speed to avoid hydroplaning.

Brakes are also a concern in the rain. Wet brakes are less effective. When driving in the rain, test the brakes regularly. If the brakes don't respond normally, apply slight pressure to the brake until it responds normally, suggests Kansas Highway Patrolman Trooper Wingate.

- **Snowy and icy surfaces.** Snow and ice make roads more difficult to navigate. Slush makes it difficult to steer, hard packed snow increases the danger of skidding, and black ice makes driving extremely dangerous. Black ice is a thin layer of ice that forms on the

road's surface.

Streets and highways covered with snow, snow pack, or ice are hazardous, and especially so when the snow or ice begins to melt. The slush or wet surface acts as a lubricant and traction is reduced. Extreme weather conditions may require special equipment (e.g., studded tires or tire chains) and/or special skills by the driver (e.g., slow starts and stops).

Shaded sections of the highway and surfaces on bridges and overpasses will freeze before the rest of the road. These same areas will also take longer than other parts of the highway to thaw.

If you must drive during a snowstorm, reduce the vehicle speed, use the windshield wipers and defroster, and turn on the vehicle's low beam headlights. You should reduce speed by more than half for packed snow and slow down to a crawl on ice.

If you apply your brakes suddenly on an icy road, the vehicle will go into a skid. If you begin to skid, let up on the accelerator and turn the front wheels in the direction of the skid. If you have to stop on a slippery surface, it is advisable to apply slight gradual pressure to the brakes, gradually slowing the vehicle without locking the wheels.

A quick reminder of what to do if you're in a crash or are stranded

- **Call for help.** When calling 911 or dispatch for help, remember to give the location first before you start reporting on the incident. That way if you lose contact with 911 or dispatch, they will know where you are.

- **Evacuate only if necessary.** The National Weather Service reports that many people die each year when they attempt to leave their vehicle during a storm. You should not leave the vehicle in search of help. The best chance of rescue is to stay with the vehicle. You

should remain calm and not panic. Tie a red bandanna to the vehicle antenna as a signal for help.

- **Keep passengers warm until help arrives.** If you are able to start the engine, keep the bus running for 10 minutes out of each hour, and run the heater. Make sure the exhaust is clear, or you could become a victim of carbon monoxide poisoning. Leave a window partially open, as an extra precaution. Keep the interior lights on, while the engine is running, as this provides additional heat. Keep moving your arms and legs, as this will forestall hypothermia.

- **Make yourself visible to others.** Set your emergency triangles as recommended by the Federal Motor Carriers Association. In most cases, set triangle-one 10 feet in front of the vehicle, set triangle-two 10 feet in back of the vehicle, and set triangle-three 100 feet in back of the of the vehicle. Also, turn on the vehicle emergency flashers for more visibility.

In sum

Winter driving means preparing in advance your vehicle emergency supplies, honing up on your winter driving habits, and knowing what to do if you are in an accident. Prepare now for confident and effective responses to winter weather conditions when you need it. ●

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Sources

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