



Kansas RTAP Fact Sheet

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

Safety in Ten: Getting Ready for Spring Storm Season

What you should know about driving in storms.

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Being informed and prepared for Kansas weather and weather-emergencies is the key to transporting your passengers safely during the average 55 days of spring storm weather, March through May, as tracked by the National Oceanic and Atmospheric Administration (NOAA). In this article, we'll talk about preparing in advance, changing your driving habits, and what to do if you are in a crash.

Driver and passenger preparation

When it comes to spring storm season driving and unforeseen conditions, prepare yourself as a driver as well as your bus. The wisest choice is to avoid driving, but storms may strike with little or no warning and driving may be necessary, regardless. Preparation is your best defense; if a spring thunderstorm suddenly occurs, you will be less likely to panic and stress out.

Stay informed about weather conditions. Stay informed about weather conditions and forecasts. Here are three tools to help with keeping informed:

1) Some local news stations, such as WIBW, have a text application that will send weather advisories directly to your phone for the zip codes you enter.

2) Your local weather station might post updates on the internet. Another internet site is <http://www.intellicast.com/>.

3) Your agency and dispatch should have a NOAA weather radio. A NOAA weather radio taps into a nationwide network of radio stations broadcasting continuous weather information from the nearest National Weather Service office.

Ultimately it is the responsibility of your agency's management and/or dispatcher to look ahead a few days at the forecast and determine if the weather is too dangerous for driving

and transporting passengers. It is your responsibility, though, to stay informed and cooperatively communicate with management and dispatch about the condition of roads prone to flooding or about severe weather as it is occurring to help ensure the safety of your passengers and yourself.

The biggest hindrance to being prepared for severe storms can be ignoring common sense. An example: a local meteorologist has issued a severe storm warning but it is still sunny and nice out. You begin your trip only to find, 20 minutes into the trip, that conditions have rapidly deteriorated and now you are in the middle of possible lightning, tornadoes and flash flooding, with no plan for shelter. Being prepared means that, if you hear a warning or observe threatening skies, have a plan to seek safety if necessary.

What about lightning?

Two lightning facts from NOAA: 1) most lightning casualties occur in the summer months and during the afternoon and early evening and 2) a vast majority of lightning victims were seeking shelter but waited too long. Examples of waiting too long would be de-boarding a wheelchair passenger or helping a passenger into the doctor's office from the parking lot during a thunderstorm. The best tip, according to NOAA, is if you can hear thunder, you can get struck by lightning.

You are the safest from lightning strikes while inside a building, but you are safer from lightning in your enclosed vehicle than standing outside the vehicle

during a storm. The steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.

Be aware that major thunder and lightning strikes occur most often in the afternoon and early evening. Make sure that you and your passenger can safely exit the vehicle and enter the building, or vice versa.

What about tornados?

If a tornado is imminent, seek shelter for you and your passengers. You might think that you could de-board at the nearest box store (Wal-Mart, Dillon's, etc.). I guarantee you that the store is already locked down and everyone inside is in the store's designated shelter location, because that is the store's emergency plan. The better plan for you is to go to one of your agency's pre-selected shelter sites.

A pre-selected site (an ADA- accessible site that remains unlocked during an emergency) could include the local hospital or fire station. It's important to meet with the individuals in charge of each site to plan logistics in advance of any emergency. Don't assume that these facilities will meet your needs. Although there is no official recommendation on how many shelters your agency should have, common sense would tell you that each route should have one or two shelters that could be accessed.

What about in a rural area?

If you and your passengers are 20 miles away from any town and see a tornado, the best solution, according to NOAA, is to seek lower ground, such as in a ditch. The problem with de-boarding passengers and seeking refuge in a ditch is that you might be unable to get your passengers with mobility issues into a ditch. Also, tornados bring additional weather hazards such as hail and pelting rain.

A second recommendation by NOAA, if you see a tornado while driving and there are no shelters nearby: Stay in the vehicle, seat-belted as usual, and try to drive at a right angle away from the tornado to a sturdy shelter.

As a last resort, if you are unable to drive away to seek sturdy shelter, stay in your vehicle with the seat belt on, put your head down below the windows



Spring Storms: The Facts

- Kansas had 55 thunderstorm weather days (meaning the presence of lightning, tornados or flash floods) in 2012.
- Lightning causes 55-60 fatalities and 400 injuries nationally each year. In 2011 Kansas had 796,848 cloud-to-ground flashes of lightning, with one fatality.
- Tornados cause 60-65 fatalities and 1500 injures each year nationally. Kansas had an average of 36 tornados per year and between 1999 and 2011, with three fatalities in 2011.
- Flash floods, nationally, are the number one cause of deaths associated with the Spring storm season at more than 90 fatalities each year. Kansas had one fatality from flash flooding in 2011.

Source: National Oceanic and Atmospheric Administration.

and cover yourself with blanket or coat if possible. Do the same for your passengers if you have time.

What about flash flooding?

NOAA states that a flash flood occurs within a few hours (usually less than six hours) of heavy or excessive rainfall and that more than half of all flood-related drowning occurs when a vehicle is driven into hazardous flood water. **TURN AROUND, DON'T DROWN!**

Just this last year in Douglass, Kansas, a bus driver attempted to drive through moving water on a flooded road and the bus ended up being washed off the road.

According to the National Safety Council's *Coaching the Van Driver III* workshop, a foot of water will float many vehicles and two ft of water will wash away almost all vehicles.

Keep your vehicles well maintained

To be best prepared for to the added perils of spring storm driving, each transit

vehicle needs proper maintenance:

- **Check brakes.** Brakes are the most-used components on your vehicle. Make sure the pads, shoes, drums or rotors are in good condition.
- **Check tires.** Good quality tires help prevent crashes. Check the tire pressure daily. Check the tread depth at least once a week and rotate your tires as necessary. The National Highway Transportation Safety Board recommends at least 2/32" of tread depth to be safe. Replace any tires that do not have the correct tread depth or have excessive edge or center wear.
- **Check wiper blades.** Wiper blades are rubber and can crack easily, especially during a cold winter like this last one. Check them and replace any that are damaged so you have clear visibility.
- **Check windshield washer fluid.** You'll be using lots of washer fluid as you try to keep your windshield clean from the wet spray from other vehicles. Check this daily, as it can be hazardous to be driving and not able to clean off the windshield.

The National Weather Service defines a **weather watch** as conditions favorable for a particular weather event in and near the watch area—conditions that may pose a risk to life and property.

A **weather warning** or advisory indicates that a particular weather event is imminent or occurring.

• **Check engine oil.** KDOT requires you to check your oil on a weekly basis. Remember to use the manufacturer's recommended oil viscosity range for spring and summer.

Change your driving habits for spring

The National Safety Council's *Coaching the Van Driver III* workshop emphasizes that road and weather conditions warrant slow and cautious driving. Slippery roads caused by rain, especially gravel roads, can make it much more difficult for you to control your vehicle. Severe thunderstorms can reduce visibility and can cause moisture to form on the vehicle brakes. This will increase your stopping distance. These conditions are especially dangerous because the vehicle may not respond as expected, even though you may respond quickly and diligently.

Maintain a cushion of safety around your vehicle, scan ahead and increase your following distance. This will give you more time to anticipate and react to potential adverse weather conditions.

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 the incident. This way, if you lose contact with 911 or dispatch, they will know where you are.
- **Make yourself visible to others.** If it is safe to leave your vehicle to do so,

Inclement Weather Driving Tips

- Rain both reduces visibility and makes roadway surfaces dangerous, so increase your normal following distance of four seconds to more than one second for each adverse condition.
- Kansas law states that you must have your headlights on low beam when your windshield wipers are on.
- Roads are most dangerous the first 10 to 15 minutes after the rain starts to because oil from the asphalt and residues left on the road by vehicles make the roads especially slick.
- Another road hazard is found on gravel roads. During wet weather the shoulders of gravel roadways can become saturated with water and not able to hold the weight of your vehicle.
- Hydroplaning can occur at 30 mph — and increases with speed.
- Brake function is also a concern in the rain. Increase your following distance.

Source: National Safety Council "Coaching the Van Driver III" workshop materials.

exit your vehicle and set your triangles as recommended by the Federal Motor Carriers Association. Set triangle-one 10 ft in front of the vehicle, set triangle-two 10 ft behind the vehicle, and set triangle-three 100 ft behind the vehicle. Also, turn on the vehicle emergency flashers for more visibility.

- **Keep passengers warm until help arrives.** Even in warm weather a person can become hypothermic, so it is important to check your passengers to see if they are warm enough. If you need to start the engine to 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. Tell your passengers to keep moving their arms and legs, as this will forestall hypothermia.
- **Evacuate only if necessary.** The National Weather Service reports that many people die each year when they attempt to leave a vehicle during a storm. Lightning kills over 90 people a year, nationally. You should not leave the vehicle in search of help. The best chance of rescue is to stay in the vehicle. Remain

calm and don't panic. Set your flashers to indicate you are stopped.

In summary, spring storm driving includes preparing for emergency weather situations such as lightning, tornados and flash flooding. Pay attention to weather forecasts, and especially to watches and warnings.

Hone up on your spring driving habits for slippery and wet roads: that is, reduce speed, communicate with other drivers on the road using the vehicle headlights and directional signals, maintain a cushion of safety by increasing the normal four second following distance by one second for each adverse condition, and scan the road ahead and use your mirrors to scan around the vehicle to look for potential problems.

Finally, know what to do if you are in a crash during a spring storm — call 911 or dispatch and keep your passengers in the vehicle, calm and warm.

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Sources

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