



Kansas RTAP Fact Sheet

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

Fire Safety at the Rural Transit Agency = Prevention, Planning and Training

By Anne Lowder

A newly trained driver for your agency is out on a solo route. After several scheduled pickups he has a full bus of senior adult passengers. Next stop: the shopping center. As he pulls into the shopping center he notices smoke coming from the engine department of his vehicle. Feeling unsure of what to do next, he calls dispatch. The dispatcher tells him that she will call the fire department but to check out the situation and call them back. He leaves his passengers on-board, grabs the fire extinguisher, jumps out and opens the hood of the vehicle. The fire immediately spreads. Within seconds, smoke fills the interior of the bus and the only exit (no rear door) has flames shooting across it. The passengers are screaming. The emergency window exits are stuck and can not be opened. The driver has to evacuate passengers through the front door. Because his passengers are older, they needed significant assistance to get off the bus. Your driver gets his passengers off, but only because several bystanders helped. The bus is completely engulfed in flames by the time the fire department arrives. Review of the incident shows that neither the dispatcher nor the driver had practiced or participated in vehicle evacuation simulations as part of their on-the-job training.

The most important reason for fire safety planning is the protection of your employees and customers. No matter when or where a fire strikes, there is no time to learn evacuation procedures in the middle of the emergency itself. Without proper training and sufficient procedures in place, it is common for people to panic and overreact. The result: an increased risk of making the fire worse or making poor decisions. This article will look at fire prevention strategies in and around the maintenance shop, on vehicles, and through employee fire prevention planning and training.

In the garage

Different types of fire hazards can be found in a maintenance garage. For example, oil soaked rags must be handled differently than general paper trash. Large accumulations of waste paper or corrugated boxes, etc., can pose a significant fire hazard. Materials such as paints, solvents, aerosols and other flammable or combustible materials can cause large fires or generate dense smoke and are easily ignited by matches, welder's sparks, cigarettes, or may even start from spontaneous combustion.

Fuels and flammable gases used in various pieces of equipment are



Fire safety includes learning how to use a fire extinguisher correctly — and much more.

also potential fire hazards. Examples of such equipment include: generators, grounds maintenance equipment, and motor vehicles. Fuels include welding acetylene and stored liquid or gaseous fuels. These fuels or compressed gases can be a significant fire hazard and must be monitored and controlled.

To limit the fire potential, stock rooms should be kept clean and orderly. Aisles providing access to fire exits should be clear. Service bays should be kept clean and should not be used to store combustible materials. Combustible waste materials placed outdoors for trash collection should be located away from the building. Trash dumpsters should be located so that possible fires will not spread to the building.

Flammable and combustible liquids should be stored in accordance with National Fire Protection Association (NFPA) Regulation 30 (see source below). Inside storage rooms should have a ventilation system and automatic sprinkler system. Flammable and combustible liquids should be kept in covered containers when not in use. Containers should be bonded and grounded when liquids are transferred from one container to another. A wire with alligator clips can be used to connect one container to another for stability (bonding) and one container to an underground water pipe or electrical ground (grounding). Spills should be cleaned up promptly and disposed of on a daily basis.

The shop, based on your local fire code set by townships and counties, should

Pre-trip and post-trip vehicle inspections, as well as an established preventive maintenance cycle, can help reduce the risk of vehicle fires.

have fire detection and alarm systems installed. Employees should be trained on procedures for manually activating the fire alarm system. The system should be maintained, tested and inspected based on the manufacturer's guidelines.

Electrical safety

Electrical service panels in the shop should be readily accessible, well maintained, and be without evidence (such as melted wires) of overheating. All wiring insulation in outlet and junction boxes should be in good condition and not frayed or loose.

Prevention for electrical fires comes down to how the user operates the equipment and that he/she respects the dangers that can occur from misuse. Vehicle inspections should look for exposed wires that have no insulation, damaged or defective equipment and that electrical tools and equipment are properly grounded and maintained to reduce the risk of explosion or fire. Any issues need to be fixed immediately.

Vehicle safety

National Fire Protection Agency (NFPA) statistics show that 75 percent of highway vehicle fires resulted from mechanical malfunctions. Collisions or overturns caused only 3 percent of vehicle fires. What's a good preventive strategy? Preventive maintenance. Vehicle preventive maintenance does not just happen. Managers, operators, and mechanics must take ownership in the preventive maintenance cycle of inspection, service and repair of vehicles and equipment.

Managers need to implement an overall approach to preventive maintenance. KDOT policy requires drivers of KDOT-funded vehicles to complete pre- and post-trip inspections before each use of a vehicle and providing a written record of any problems with the vehicle to the supervisor. It's a best practice for any vehicle.

Finally, maintenance staff should establish a preventive maintenance schedule on each vehicle based upon miles driven, days in operation, environmental conditions and manufacturer requirements. Any problems noted by the operator should be corrected before the vehicle is put back into service.

Be prepared

Fire extinguishers are only effective at the start of a fire. Within seconds, fires will outstrip a 10- 20 ABC fire extinguisher's dousing capacity. (Most fire extinguishers complete their discharge in 8 to 12 seconds.) A typical large vehicle, such as a 16 passenger transit bus, could be totally

Sources

- U.S. Department of Transportation, Federal Motor Carrier Safety Administration, Regulation 393.95, Subpart H – Emergency Equipment. Web. November 3, 2011. <http://www.gpo.gov/fdsys/pkg/CFR-2010-title49-vol5/pdf/CFR-2010-title49-vol5-sec393-95.pdf>
- Bremerton, Washington Fire Department. "Using a Fire Extinguisher" Video. (2010.), Web. November 3, 2011. <http://www.youtube.com/watch?v=ZCSms-jyOao>
- United States Department of Labor, Occupational Safety and Health Administration (OSHA) Portable Fire Regulations (CRF 29). Web. November 3, 2011. http://www.osha.gov/pls/oshaweb/searchresults.relevance?p_text=fire&p_oshaweb_filter=STANDARDS&p_logger=1
- National Fire Protection Association Regulation 30 (NFPA). "Storage of Flammable and Combustible Liquids". 2012. Web. November 3, 2011. <http://www.nfpa.org/aboutthecodes/aboutthecodes.asp?docnum=30>
- United States Department of Labor, Occupational Safety and Health Administration (OSHA). "Evacuation Plans and Procedures." Web. November 3, 2011. http://www.osha.gov/SLTC/etools/evacuation/portable_placement.html

AAA and Federal Highway Administration Vehicle Safety Tips

- Watch for fluid leaks under vehicles, cracked or blistered hoses, or wiring that is loose, has exposed metal or has cracked insulation. Have any of these conditions inspected and repaired as soon as possible.
- Be alert to changes in the way your vehicle sounds when running, or to a visible plume of exhaust coming from the tailpipe. A louder than usual exhaust tone, smoke coming from the tailpipe or a backfiring exhaust could mean problems or damage to the high-temperature exhaust and emission control system on the vehicle. Have vehicles inspected and repaired as soon as possible if exhaust or emission control problems are suspected.

<http://www.nfpa.org/itemDetail.asp?categoryID=1943&itemID=45941&URL=Safety%20Information/For%20consumers/Vehicle%20fires/Vehicle%20safety%20tips>

engulfed in flames within three minutes. There is no time to read instructions or figure out how to hold the extinguisher and where to spray. For this reason, it is important that you participate in hands-on drills to become familiar with extinguishers and their use and to emphasize the importance of evacuating in the event of a fire. Look for an article in the next *Kansas TransReporter* about the selection, maintenance and use of fire extinguishers.

Fire safety planning

The Occupational Safety and Health Administration (OSHA) 29 CFR requires employers of more than 10 people to establish a written fire prevention plan. OSHA standards also require employers to provide proper exits, fire-fighting equipment, and employee training to prevent fire deaths and injuries in the workplace.

The fire safety plan should train employees on the preferred means of reporting fires and other emergencies, types of evacuations to be used in various emergency situations, and how to use the alarm system and fire extinguishers. The plan should also detail emergency escape routes, procedures for accounting for all employees after an emergency evacuation has been completed, and rescue and medical duties for those employees who are able to perform them.

A good way to accomplish this is for your agency to incorporate fire drills into annual and new employee

If you see evidence of a fire under the hood of your vehicle, shut off the power, evacuate the vehicle and call 9-1-1. Do not open the hood; doing so will provide oxygen to fuel the fire.

orientation trainings. Talk to your local fire department. Local fire departments often hold fire extinguisher training at no cost or for the cost of refilling the extinguishers.

Never put yourself or anyone else in jeopardy by trying to extinguish a building fire that may be too large to handle. Instead, sound an alarm to other occupants and leave the building, closing all doors behind you. Then, call the 9-1-1 to report the fire. Go to your pre-designated meeting place in case of fire and wait for firefighters to arrive. Never go back into a burning building!

Likewise, with a vehicle, shut off the electrical power, evacuate the vehicle, call 9-1-1 and do not open the hood. Opening the hood of the vehicle provides oxygen to the fire and increases its ability to spread. Once evacuated, move passengers as far away from the vehicle as possible.

Complete fire prevention includes training as well as preparing and following

a fire safety plan. Routine fire audits can help ensure that you are never surprised by any unknown fire violations. The steps you take to adequately prepare for an emergency can make all the difference. ●

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