OVERVIEW

The Texas Transportation Code defines the types of equipment designated as highway maintenance or service vehicles. These types of vehicles must be equipped with safety and warning lights to increase visibility to the traveling public. The Transportation Code requires the Texas Department of Transportation (TxDOT) to adopt standards and specifications for this type of lighting on highway maintenance and service vehicles.

WHAT IS A HIGHWAY MAINTENANCE OR SERVICE VEHICLE?

Under the Texas Transportation Code, a “highway maintenance vehicle” is a type of equipment designated by TxDOT for highway or traffic maintenance, including the following:

- On-road road maintenance equipment, such as vehicles used for:
  - Snow removal
  - Striping
  - Skid resistance testing
  - Sweeping
  - Spraying
  - Lifting (e.g. aerial platform machines)
  - Road profiling
- Off-road equipment, such as:
  - Motor graders
  - Road rollers
  - Excavators
  - Pneumatic tire equipment
  - Mowers
  - Tractors

A “service vehicle” is defined as a highway or traffic maintenance vehicle that meets the following criteria:

- The equipment is owned and operated on a highway by or for a governmental agency and performs a function requiring the use of a lamp or illuminating device in accordance with standards outlined in Texas Transportation Code §547.105 (see next section); or
- Serves a public service function, such as public utility vehicles, tow trucks, escort flag vehicles, and any other service vehicle designated by TxDOT.

GENERAL LIGHTING STANDARDS

TxDOT’s equipment lighting policy states that all on-road and off-road equipment shall, as a minimum, meet the lighting requirements specified in the Texas Transportation Code. The Texas Transportation Code authorizes TxDOT to adopt additional warning light standards. The National Highway Traffic Safety Administration and Federal Motor Carrier Safety Administration of the U.S. Department of Transportation (DOT) have the authority to change lighting requirements. If changes conflict with TxDOT requirements, please contact TxDOT’s Fleet Operations Division at (817) 370-3674 or Fleet_Operations@txdot.gov for clarification. A unit not equipped with the required lighting must be transported on a trailer or other suitable conveyance equipped with the required lighting. The unit may not be driven or towed to and from a designated work zone.

Following is a summary of TxDOT’s lighting standards for highway maintenance and service vehicles.

Amber Warning Lights

Amber warning lights are intended to identify highway maintenance and service vehicles and help the traveling public distinguish between this equipment and authorized emergency vehicles, such as law enforcement, fire trucks and ambulances.

Amber warning lights should be used in the following circumstances:

- Highway maintenance and service equipment is operating or stopped on the roadway or shoulder and requires caution from approaching motorists.
- On-road equipment is performing work on the roadway.
- A single magnetic amber beacon may be temporarily installed on a vehicle that is not always used for highway maintenance activities, but is occasionally required to be parked on the roadside for that purpose.

Vehicles used for incident response must use warning lights when parked at an incident location or while maneuvering through congestion caused by the incident.
Configuration

On-road equipment requiring warning lights should be equipped with one of the following configurations:

- Full length LED light bar with left (driver's side) half being blue and right (passenger side) being amber on all maintenance and service vehicles.
- On dump trucks, aerials, haul trucks and any other large trucks, one amber LED mini-light bar in the middle of the roof and two amber LED beacons on each side of the roof.
- One blue LED beacon may be substituted for the left amber LED beacon for use in authorized blue-light applications.
- Trucks with headache racks may also add two small light emitting diode (LED) red lights facing to the rear and mounted high on the headache rack. These lights must be wired into the Original Equipment Manufacturer (OEM) brake-light/hazard-light circuit and function synchronously with the OEM brake/hazard lights.
- Sign trucks and aerial devices (bucket trucks) may also add small LED red lights delineating the corners of the vehicle. These lights must be wired into the Original Equipment Manufacturer (OEM) brake-light/hazard-light circuit and function synchronously with the OEM brake/hazard lights.

Off-road equipment should be equipped with one or two amber LED warning beacon(s).

Lens Colors

The standard color for the warning light(s) for all vehicles used in highway maintenance and construction is amber. Highway maintenance and service vehicles must never display a red flashing color visible from the front of the vehicle, nor a flashing white light visible from the rear of the vehicle.

An optional color for off-road equipment is blue/amber. Any warning light element projecting a blue color must be powered by a separate switch and used only when operating in or adjacent to open traffic lanes. When operating in standard work zones, only amber lights are authorized.

Installation

Mount warning lights and beacons as high as practicable on the exterior of the equipment and clearly visible from all directions. Blue warning lights must be mounted on the left (driver's) side of the equipment and operated on a separate switch from the amber warning light.

Do not install warning lights:
- inside any vehicle cab
- behind a grill
- on a bumper
- inserted into the original equipment manufacturer (OEM) standard light or lenses.

Multiple warning lights may flash simultaneously or randomly, but not rhythmically.

EXAMPLES

In work zone with traffic control: Amber only.

On right-of-way with no traffic control: Amber and blue; blue on driver side.

FURTHER REFERENCES

Texas Transportation Code
- §547.001
- §547.105
- §547.305

QUESTIONS?

Contact TxDOT’s Fleet Operations Division at (817) 370-3674 for more information.