



Marine Terminal Traffic Safety Tip Sheet

Traffic Safety is Critical in Expanding Terminals

Traffic safety is critical for ensuring the safety of everyone at risk on the terminal. Considerations include traffic pattern evaluation, traffic controls, lines of sight at intersections, designated parking out of traffic lanes, lighting, and employee training.

Thorough analysis, protocol implementation, training, and consistent enforcement can help avoid traffic incidents and reduce injuries and property damage. Causal analysis and incident tracking can help determine risk areas to be studied. Factors contributing to traffic-related incidents and injuries include:

Training and Awareness: Drivers and equipment operators who are not properly trained. Pedestrians, drivers, and equipment operators who are unable to recognize potentially dangerous traffic situations.

Communication: Incidents caused by poor communication (e.g., pedestrians and mechanics failing to alert equipment operators of their presence, failure to notify affected personnel of traffic pattern changes).

Terminal Conditions and Traffic Controls: Larger, smoother driving surfaces on terminals may encourage excessive speed and become slippery when wet. Terminal expansion may have been evolutionary based on available land area; this may lead to sub-optimal layout, intersections, and traffic patterns. Inadequate traffic controls increase the potential for excessive speed and collisions.

Weather: Ice, snow, fog, and rain may create hazardous conditions.

Equipment and Operation: Defective or missing safety equipment such as lights, brakes, horns, and windshield wipers contribute to incidents. Factors such as improperly loaded cargo/equipment, excessive speed, failure to abide by traffic controls, and distraction can also contribute to traffic incidents.

Improper Parking: Improperly parked vehicles and equipment, particularly in operational areas, can contribute to reduced visibility, obstacles, and potential collisions.

Preventing Traffic-related Injuries and Fatalities

Comprehensive terminal traffic controls are key to preventing traffic-related injuries and fatalities and should address:

Terminal Layout and Traffic Flow: Terminal layout contributes to traffic safety. Considerations include lane visibility, parking, intersections, operational routine, and congestion. Logical traffic flow patterns prevent unnecessary crossing situations leading to collisions and are critical in congested or coordinated operations such as the highline and receiving/delivery areas. If logical traffic flow patterns change or are disrupted, communications, maps, and advisories should be given to all drivers and pedestrians.



Traffic Controls: Traffic controls should identify safe traffic routing, publicize safe speeds and other vehicle controls, protect pedestrians, and help prevent collisions. All traffic controls **should** take into consideration that pedestrians may be required to walk on the terminal to get to and from work locations. Such controls may include:

- Stops signs at intersections.
- Rumble strips, "bot dots," "road turtles," speed bumps, speed humps, etc. at intersections and other critical areas to remind drivers to slow down and be particularly cautious.
- Warning markings on pavement.
- Electronic traffic lights.
- K-rails/Jersey barriers for traffic separation.
- Traffic cones, lane striping, high visibility barriers, pennant flags, etc. to alert drivers to location of mechanics and maintenance operations or to prescribe patterns within the highline.
- Cautionary and directive signage, particularly for traffic routes and/or special hazards.
- Traffic control guidelines (e.g. handouts, maps) for over-the-road truckers.

Safe Driving and Operation of Vehicles and Equipment: Employees should be trained in safe techniques and procedures to properly operate vehicles/equipment and to prevent injury to themselves, other operators, and pedestrians by:

- Observing safe driving speeds.
- Following prescribed traffic routes and avoiding short cuts against traffic flow.
- Being aware of terminal activities and possible changes in traffic routes.
- Watching for and avoiding pedestrians.
- Avoiding distractions (cell phones/personal electronic devices and eating) while operating equipment.
- Using seat belts as required.
- Not operating equipment when fatigued or impaired.
- Not carrying loads too high on a hustler or lift truck.
- Using proper backing techniques to minimize cargo shifting.
- Parking chassis wholly within the prescribed parking areas.

Parking: Unattended vehicles **should** be shut off (or at a minimum secured from movement) and parked a safe distance apart in established designated parking areas. Coast Guard and OSHA regulations dictate that personal vehicles be parked away from cargo-handling operations. A twenty foot separation must be maintained between the first 2 vehicles in check-in, check-out, roadability, or vessel loading/discharge lines and between any subsequent vehicles around which pedestrian employees work. Chassis should be parked in designated areas and bolsters aligned so that none stick out into the traffic lane.

Pedestrians: Pedestrian traffic and pedestrian employees performing tasks while on foot at marine terminals should be eliminated to the fullest extent possible. Pedestrians should wear high visibility clothing, should be aware of traffic hazards, and should take appropriate precautions to protect themselves. Pedestrian walkways must be clearly identified and their use mandated. Pedestrians should consider that drivers cannot always see them because of "blind spots." Pedestrians working with equipment should stay well clear of the bight and blind spots. It is important that pedestrians make eye contact with the operator and that the operator acknowledges their presence before they approach the equipment



Over-the-road (OTR) Drivers: OTR drivers may be unfamiliar with the terminal layout and its traffic rules. Terminal operators should assist OTR drivers in safe operation by providing traffic pattern information, terminal traffic rules, clear traffic lanes, signage, etc. Terminal management and security reports or disciplinary action for infractions of terminal traffic safety rules and policy should apply.

Training and Awareness: Drivers and equipment operators must be trained on safe operation. Pedestrians should be trained to use walkways and to be aware of traffic hazards and how to avoid them. Pedestrians, drivers, and equipment operators should scan, focus, and recognize potentially dangerous traffic situations.

Terminal Safety Training/Gangway Safety Meetings: Supervisors should conduct Gangway Safety Talks or Briefings to reinforce safety awareness and communicate special operational safety concerns.

Specific regulatory requirements for operating powered industrial trucks in marine terminals are found in [29 CFR 1917.43](#) and [29 CFR 1917.44](#). Training requirements are outlined in [29 CFR 1910.178\(I\)](#). These regulations may be accessed via the internet at:

http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=0&p_keyvalue=&p_status=CURRENT

For additional information, refer to:

OSHA Publication 3337: Traffic Safety in Marine Terminals

<http://www.osha.gov/Publications/3337-07-2007-English-07192007.html>

OSHA Safety and Health Topics Page on Motor Vehicle Safety

<http://www.osha.gov/SLTC/motorvehiclesafety/index.html>



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