American Road & Transportation Builders Association

July 27, 2012

U.S. Department of Labor
OSHA Docket Office
Docket OSHA-2010-0059
Technical Data Center
Room N-2625
200 Constitution Avenue, NW.,
Washington, DC 20210

Re: OSHA Docket No. OSHA-2010-0059
Request for Information - Preventing Backover Injuries and Fatalities

The American Road and Transportation Builders Association (ARTBA) is pleased to submit comments on the above-referenced notice in the Federal Register. ARTBA's membership includes construction contractors, planning and design firms, educators, public officials, and heavy construction equipment manufacturers, as well as manufacturers, suppliers and installers of temporary and permanent traffic control devices, including signs.

ARTBA welcomes the opportunity to comment on the June 2012 Request for Information related to Preventing Backover Injuries and Fatalities. ARTBA and its affiliated foundation have significant experience in assisting our members and the industry in developing programs, training materials and work practices aimed at eliminating "Runover" and "Backover" hazards in the transportation construction industry. We have worked closely with the National Institute for Occupational Safety and Health (NIOSH) in improving the concept of "Internal Traffic Control" to address safety challenges workers face during the navigation and interaction between workers on foot, heavy construction equipment and large dump/delivery trucks that continuously enter and exit roadway construction sites.

Most significantly, several years ago ARTBA was awarded a contract by NIOSH to review data the institute gathered over 10 years, assessing conditions in roadway construction zones that contribute to the high rate of worker "struck-by" incidents. Based on that research, ARTBA was tasked to create a training course on incident prevention. That course was completed in late 2011. Since that time, ARTBA has been offering the training program to the industry vis-à-vis an OSHA Harwood training outreach effort. Additionally, for nearly 15 years ARTBA has worked in partnership with Labor, government and industry partners through coalitions and alliances to reduce backing incidents.

Based on all these activities, ARTBA believes it has a sound understanding of both the challenges faced by our industry with regards to preventing backover incidents as well as solutions to those problems.

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Our comments begin with the premise and understanding that issuance of a regulatory standard to address backover hazards will likely take many years to come to fruition. Without addressing the merits of creating a backing standard, ARTBA believes OSHA could and should move quickly and effectively by providing recommended practices and guidance documents explaining good industry practices to reduce and eliminate this hazard.

1. **The Problem:** On average, 50-60 workers are killed in struck-by incidents on roadway construction sites; many of these are backover incidents. More workers are injured by the same hazard. Hazardous conditions are accentuated by the following situations:
    a. Operation of large trucks and equipment in close proximity to workers on foot (pedestrian workers).
    b. Intersections of vehicle roadways and worker pathways.
    c. Challenging road conditions (transitions between traffic lanes and construction sites) which demand operator/driver attention so they are not focused on workers on foot.
    d. Poor worker visibility, created by vehicle "blind spots," poor site conditions, bad weather conditions, lack of high visibility garments, and unsafe worker behavior.

2. **Recognition:** There are a number of key principles that must be understood at all levels of project management to prevent worker backovers. These include:

    a. Understanding that all trucks and equipment have unique blinds spots that prevent the driver from seeing workers and other obstacles through their windows and mirrors. Drivers must know what is located in those blind spots by walking around their vehicle before moving it, by using cameras, radar or other technology to see into the blind spots, or using a designated spotter;

    b. Recognition that work zone access and egress areas are some of the most hazardous areas of the work zone. Trucks and other vehicles are forced to slow down quickly when leaving traffic lanes to enter the work area, or need to rapidly gain speed to merge with motorists. Drivers will be focused on traffic and ground conditions and may not see workers on foot in these areas;

    c. Appreciation that site conditions might "entice" workers to enter dangerous areas. For example, when organizing the work space, consideration should be given to where employee vehicles are to be parked, where portable latrines are stationed, where water coolers are placed. Without forethought, the location of these stations could require workers to cross open traffic lanes or routes used by trucks and other equipment, luring them into unsafe areas.

    d. Assigning responsibility and accountability to site mangers, subcontractors, operators, workers and others to create and enforce an "Internal Traffic Control Plan."

3. **Good Work Practices:** Through decades of trial, error, research and innovation, ARTBA believes the follow practices will greatly reduce the number worker backovers (and other struck-by incidents).

a. Internal Traffic Control Plans (ITCP): Construction contractors, contracting agencies, and others responsible for work zone safety face the challenge of providing a safe workplace while ensuring the safe movement of the public through the work zone. Highway and street construction presents a complex work situation in which workers face multiple injury risks under conditions that may change without warning. The concept of an *Internal Traffic Control Plan* (ITCP) involves coordination of *construction* traffic *inside* the activity area of a temporary traffic control zone. The purpose of ITCP is to separate—to the extent possible—construction vehicles and equipment from workers on foot.

   In simple terms, ITCPs are a protocol to inform all parties operating within the work space about the location of others. ITCPs create "zones" designed to minimize interaction between workers on foot and construction vehicles by designating routes and operating procedures for large trucks delivering materials.

   The plan also creates a traffic pattern to minimize backing. This is one of the most important elements of the ITCP as backing is the greatest hazard for workers on foot. An effective plan enables communication among all parties in advance of arrival to the construction site, making sure they know the location of access points and the proper path for truck and equipment movement, including pickup trucks and other work vehicles.

   The movement of workers and equipment within the work space should be planned in a manner similar to the way "Temporary Traffic Control Plans" (as required by the Federal Highway Administration for roadway construction) guide road users through a work zone. Whereas Temporary Traffic Control Plans focus on moving traffic safely through a work zone, Internal Traffic Control Plans focus on keeping workers on foot from being struck by construction equipment and large trucks. *TTCPs and ITCPs contain common principles, including:*
   - Providing clear direction to drivers
   - Separating moving vehicles from workers on foot
   - Using temporary traffic control devices to mark traffic paths, and
   - Maintaining a smooth traffic flow

b. Blind Spot Recognition and Training: A blind spot (or blind area) is the area around a vehicle or piece of construction equipment that is not visible to the operator, either by direct line-of-sight or indirectly by use of internal and external mirrors. Each vehicle has its own, unique blind spots. Operators should be familiar with the blind spots surrounding each piece of equipment he or she operates and should be sensitive to the fact workers and other objects cannot be seen in certain areas.

   Blind spots are hazardous because workers on foot often perform tasks near moving equipment and vehicles, or walk by equipment en route to another destination. When they enter a blind spot, the worker is virtually invisible to the operator. Construction equipment is typically large and has an enclosed cab. These characteristics can make the blind areas very large and difficult for the operator to see. Also, the size of construction vehicles and equipment often place truck drivers and equipment

operators high above the ground. They cannot see workers on foot crossing close in front or to the side of them. Items placed on the dash board or attached equipment can create even larger blind spots and reduce visibility.

c. Safe Worker Behavior: It is important to consider human behavior. For example, where are workers likely to stand or congregate? On hot days, is there shade nearby? Where are the latrines? Where might workers stand when cold or when it is raining? If workers are likely to walk to a location, consideration should be given to ensuring there is a safe route for them to get there.

   Radio and cell phone use occurs with increasing frequency. When talking on the phone, people frequently plug the ear away from the phone and look to the ground so they can concentrate on the call in a busy, noisy environment. When they do so, they will not see dangers or hear alarms. Policies and procedures for cell phones and other personal electronics should be factored into safe work provisions. Human factors play an important role and should be considered carefully.

d. Worker Visibility: Workers must be clearly visible to drivers and operators. Workers should be dressed in a minimum *ANSI Class II* vest as described by the ANSI/ISEA 107 "American National Standard for High-Visibility Apparel." This standard describes three "classes" of vests. An ANSI Class I or "unrated" vest is not appropriate for roadway construction workers. The most common class of garment for road construction work is Class II. A Class III garment is appropriate for night work and some daylight situations where workers need maximum visibility.

e. Safe Backing Procedures: **"**Backing" is one of the most dangerous situations in which workers on foot are vulnerable, especially if the equipment is a large dump truck. There are several key principles to safe backing:

   i. The work area should be organized to minimize backing;
   ii. Backing should only take place in designated locations;
   iii. There should be clear communication between the operator and workers on foot before backing begins;
   iv. Operators should be certain of their surroundings and the location of workers, equipment and ground obstacles;
   v. Spotters should be identified and used when possible and practical, especially when backing or maneuvering near workers on foot or other hazardous conditions;
   vi. All workers should be trained to avoid approaching or working near backing equipment;
   vii. Operators and drivers should avoid backing up unless necessary.

f. Designate Vehicle Pathways: The paths for truck and construction vehicle movement should be planned in conformance with the principles of safe construction traffic control. Long backing maneuvers for dump trucks should be avoided and points of access and egress of trucks moving within the work space should be controlled. Workers on foot should be located as far as possible from vehicle paths. Parking,

toilet, and break areas should be staged away from the principal conflict points involved with the paving rollers and dump trucks.

When creating vehicle pathways, the primary concerns are ensuring the drivers/operators know where they should- and should not go and ensuring workers know the areas to avoid. Route planning occurs before vehicles arrive on site to separate operations, minimize backing, and provide clear guidance.

g. Access and Egress Points: Access to and egress from highway construction and maintenance zones presents a significant challenge. This is especially true if access to the worksite is via a highway that carries high traffic volumes or traffic speeds are high. There are many safe practices to employ near access and egress points, which include:

    i. Maintaining a clear/open area around access/egress points where equipment or vehicles should not be parked;
    ii. Educating on-site employees about areas near access/egress points that are prone to heavy truck traffic
    iii. Ensuring trucks entering the work area are functioning properly (i.e., lights, beacons, backup alarms, and other safety features).

h. Proximity Warning: Strategies to improve safe equipment operation within the work zone include the use of electronic signaling devices or sensors to warn equipment operators of workers on foot in the immediate work area. Workers are constantly exposed to the hazards produced by moving heavy equipment. By being exposed daily to the noise of warning devices (back-up alarms) emitted by equipment, they can become accustomed to it, reducing their effectiveness. Other devices that emit a different noise should be considered in addition to the standard backing up alarms.

Additionally, there are new and emerging technologies available to improve safe equipment operations near workers on foot. These include cameras, radar, ultrasonic sensors, and radio frequency identification (RFID) systems. As these technologies become more industry applicable and economically feasible, they might be useful in reducing backover incidents on work sites.

Thank you for considering our views on this important safety matter.

Sincerely,

T. Peter Ruane

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President & C.E.O