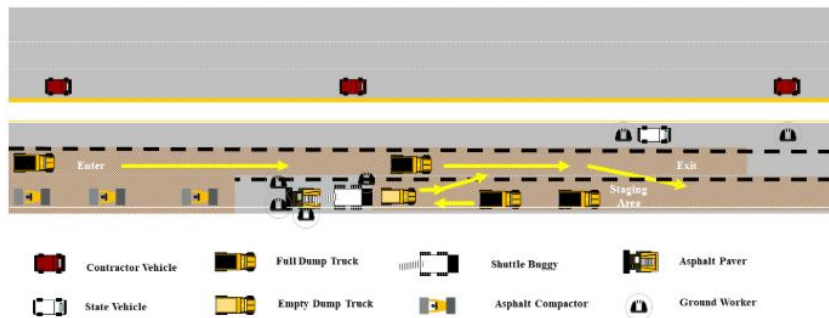


Every year operators, construction workers and pedestrians are injured or killed in incidents involving the heavy equipment commonly used in public works projects. Over the past decade 44% of the occupational fatalities at road construction sites involved a worker struck-by a vehicle in a work zone. While staying aware on the job is the best way to stay safe, there are several things you can do to reduce danger and help minimize injuries associated with heavy equipment by integrating a variety of administrative controls to your job site.

Before you get to the site

An Internal Traffic Control Plan (ITCP) is a tool that project managers can use to coordinate and control the movement of workers, construction vehicles, and equipment in the activity area. An ITCP also helps inform all parties operating within the activity area on the

locations of others to reduce the likelihood of conflicts. The main components of an ITCP are the plan's diagrams, its legend, and accompanying notes. The core of the ITCP is the diagram showing the layout of the work space and the movement of personnel



and construction equipment within the work zone activity area. The ITCP will include the access and egress points for the work space and may also show portions of the overall work zone. ITCPs are crucial in protecting workers by managing the number and type of worker-equipment interactions in the work zone. Once an ITCP is developed, it must be communicated to all employees at the worksite. This can be done during pre-shift huddles before work begins at the site.

Operating machinery

Workers should be familiar with the specific equipment they will use and fully understand the operator's manual for that machine. All equipment should be checked before any operation. This includes, but is not limited to, testing that the brakes, back-up alarms, seat belts, steering mechanism, tires, windshield



wipers and mirror positions are all in working order. Furthermore, workers around heavy equipment should always be wearing brightly colored, fluorescent or reflective vests, and other clothing that increases their visibility on the road.

When operating the vehicle,

- Make sure you always wear your seatbelt and keep your windows down so you can hear any verbal commands.
- Be sure to always check your blind spots and maintain good communication with your flaggers; obey all signs and follow the designated travel route for your vehicle.
- When backing up, make sure you stop and recheck every 100 feet, and stop your vehicle if you lose sight of your spotter. As a ground worker working near these machines, remember that the driver has a limited line of sight.
- Always stay in visual contact with the driver; a good rule of thumb to follow is that if you can't see them, then they probably don't see you.

As maintenance and construction personnel or equipment operators, you may be around heavy equipment often and can become too accustomed to their presence. This results in not giving much thought to the ever-present risks associated with working in that environment. Taking some time to understand and follow safety rules – and staying alert while on the job – can help you and your team stay safe.



Another great way to stay alert on the site is to continuously refresh heavy equipment training. There are numerous resources available, such as <https://workzonesafety.org/> that has the most current information, factsheets, infographics, and training videos. If you are looking to get hands-on training, the [New Jersey Local Technical Assistance Program](#) will launch a program in early 2026 making heavy equipment virtual simulators available, so workers can get training in a realistic environment any time they need. The additional training will teach users how to identify and mitigate risks, such as those associated with blind spots, vehicle maintenance, and safe operation.

Here's a Quick Action Item Please take your crew outside and have them walk around a piece of equipment (such as a dump truck) with one person in the driver seat, engine off and keys in pocket. Both the driver and the crew walking around the equipment will soon

appreciate the reality of blind spots and worker visibility. For example, a rear blind spot on a dump truck averages approximately 100 feet. Rotate your crew and allow others to sit in the driver's seat to share the experience.

Tips and tricks

- Always remain alert to the equipment moving around you.
- Do not get near moving equipment unless necessary.
- Never ride on equipment unless it has been designed to carry you. This means it must have a seat and a seatbelt.
- Do not walk along beside equipment. If it is necessary to travel with a piece of equipment, walk in front or behind it.
- Try to stay in view of the operator. You must remain in view of the operator when working in an excavation or trenching if you are the “top man.”
- Inspect all transport equipment and make sure it is all in good working condition
- Always provide for the protection of the general public.
- Wear safety shoes.
- Estimate the center of gravity for the equipment to be loaded.
- Always load equipment slowly onto its carrier.
- If equipment is to be driven off-site, make sure the steering, braking, and light systems are in good operating condition.
- Tightly secure the piece of equipment to its carrier.
- Be sure that the boom or any other extensions of the equipment are tightly secured.
- Keep your hands dry and as free of grease and oil as possible.
- Always keep the loading area free of debris and unnecessary tools.