



Prevention of Musculoskeletal Disorders in the Transportation Sector:

Things to Consider when Purchasing a Garbage Truck

Musculoskeletal disorders are a concern in the waste collection sector. The waste collectors are exposed to repetitive, high forces as well as extreme and awkward postures. Waste collection workers are susceptible to MDSs due to demands involved with driving, lifting garbage and recyclables, and riding and climbing up/down from the back step on garbage truck. Garbage and recycling truck design is a critical factor that impacts the injury risk associated with garbage and recycling collection.

Cab Design

Occupational drivers have also been shown to increase risk for developing musculoskeletal disorders, particularly, for low back pain (LBP). Research has shown that prolonged driving leads to higher cumulative spine loading and higher LBP occurrence. The design of the vehicle is important to reduce risk of injury due. Vehicles with driving packages (seats, pedals, tilt and telescoping steering wheels) have been reported to result in fewer musculoskeletal problems. There are also concerns due to driving in the stand-up area of the truck.

Consider the following cab interior items when purchasing or designing trucks:

- Steering wheel tilt and telescoping adjustments so it's at a comfortable height and reach.
- Ensure seats have adjustment for seat cushion vertical adjustment range, seat forward and reverse adjustment, lumbar support, seat cushion front & back will tilt, back recline, armrest height and angle.
- Air-ride features and seats with suspension to minimize effects of vibration.
- Seatbelt shoulder strap height adjustable to enhance comfort for small and larger drivers.
- Pedal adjustability.
- Ensure the pedals and the steering wheel are aligned with centerline of the seat.
- Accessibility of cup holders, gear shifter, air horn, and main controls so drivers do not have extended reach.
- Angle dashboards so controls closer to driver.
- Visibility of main displays on dashboard.
- Easy adjustment of mirrors to ensure visibility.

Truck Dismounts and Mounts

At each pick-up waste collectors have to step down from the truck and then after the collection, step back onto the truck. This repetitive climbing increases demands on the body. In addition, waste collection workers are at increased risk of slip-and-fall injuries when entering and exiting the truck and when riding on the exterior platform. These risks are exacerbated when environmental conditions are poor as rain, snow, and uneven ground. Good design of ingress/egress system, including the design of the steps, handholds, and ride-on platforms, can help prevent these injuries.

Consider the following when purchasing or designing trucks:

- Step height and distance between steps.



- Ride-on platform height and size.
- Number and location of grab handles at truck entrance and ride-on platform.
- Ensure grab handles have sufficient grip.
- Ensure adequate grating on steps, stand-up drive area and platform do prevents slips and accumulation of snow.

Loading garbage and recyclables into truck

Heavy lifting with awkward postures occurs when loading garbage and recycling into trucks. The demands of collecting garbage create concern for risk of musculoskeletal injury, including back and shoulder injuries.

Consider the following when purchasing or designing trucks:

- Automated load trucks to reduce manual handling of garbage and recycling materials.
- Purchase trucks with side hoppers that are large enough for varying sizes of material.
- Purchase trucks with rear and side hoppers that are low enough so workers do not have to lift material above waist level.

