ARE YOU IN THE "LINE OF FIRE?"

Vehicle Activity Package

SETTING THE STANDARD IN OIL AND GAS SAFETY

ENERGY SAFETY CANADA

VEHICLES – ARE YOU IN THE "LINE OF FIRE?" INJURY REDUCTION CAMPAIGN

You are in the line of fire when you are at risk of coming into contact with a force your body cannot endure.

Vehicle awareness is:

Stored Energy

Contact with stored energy
Includes pressure releases

Striking Hazards

Struck by or striking against an object
Includes dropped objects

Crushing Hazards

Caught in, on or between an object
Includes hand injuries

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LINE OF FIRE LIFE SAVING RULE

This overview includes materials that relate to the Line of Fire Life Saving Rule and some that do not. The Life Saving Rule focuses on body positioning.

This rule indicates:

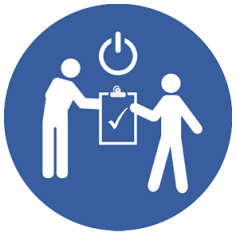
Keep yourself and others out of the line of fire

- I position myself to avoid:
  - Moving objects
  - Vehicles
  - Pressure releases
  - Dropped objects
- I establish and obey barriers and exclusion zones
- I take action to secure loose objects and report potential dropped objects

RELATED LIFE SAVING RULES

FIT FOR DUTY

DRIVING



BYPASSING SAFETY CONTROLS

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VEHICLES AND LINE OF FIRE

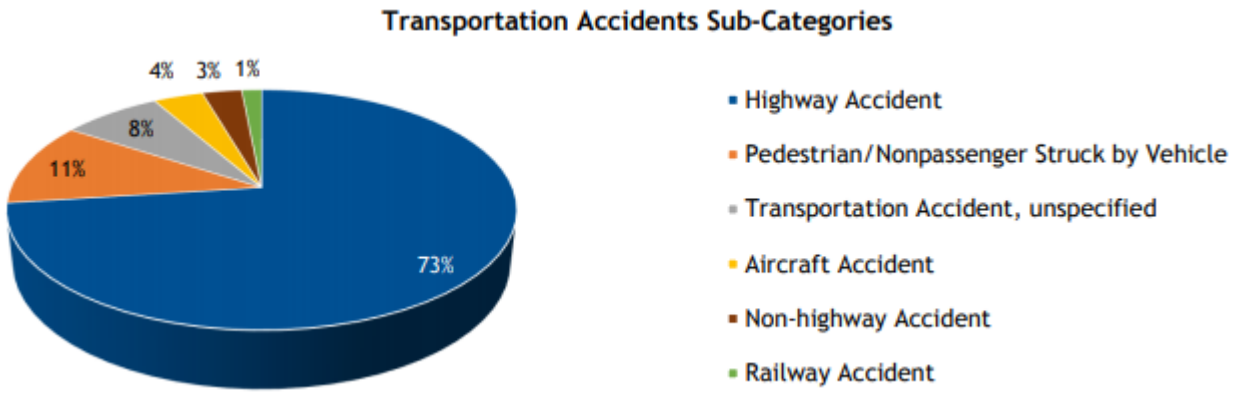
Body position in relation to vehicles is critical to prevent serious injuries and fatalities.

Consider:

- Designated walkways
- Vehicle speed
- Worker visibility (PPE)
- Site lighting
- Communication, including eye contact
- Body position when spotting
- Environmental conditions that impact visibility and footing

HOW BAD IS THE PROBLEM?

Transportation accidents as classified by Worker Compensation Boards are the leading type of fatality in the oil and gas industry representing 44% of all fatalities. The majority of these are highway accidents (73%) followed by pedestrians being struck by vehicles (11%).



WCB Data (2001-2017, Oil and Gas Funding Codes, Western Provinces)

EXAMPLE

Insert your company example here:

SPEEDING BULLET

Which has more kinetic energy, a 0.30 caliber bullet from the muzzle of a rifle or a truck at 20 km/hr?

- The truck has more energy, by almost seven times because of its large mass.*
- Think about this as you walk next to and around moving vehicles on your site or with your family at home or in the shopping mall parking lot.
- Would you behave differently if it was a bullet?
- We need to re-think our perceptions about this risk.

*depends on mass of vehicle and grains of bullet

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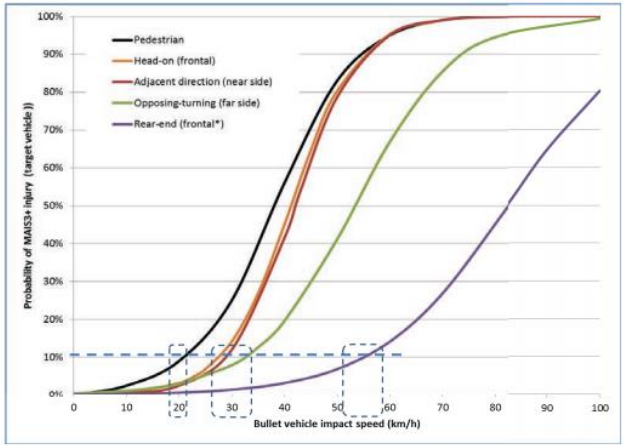
VEHICLE CRITICAL SPEEDS

We regularly occupy work environments that include vehicles and may not realize the degree of risk that is present.

How fast would a vehicle have to be going to result in a fatality 10% of the time when hitting a pedestrian? The answer is just 20 km/hour!

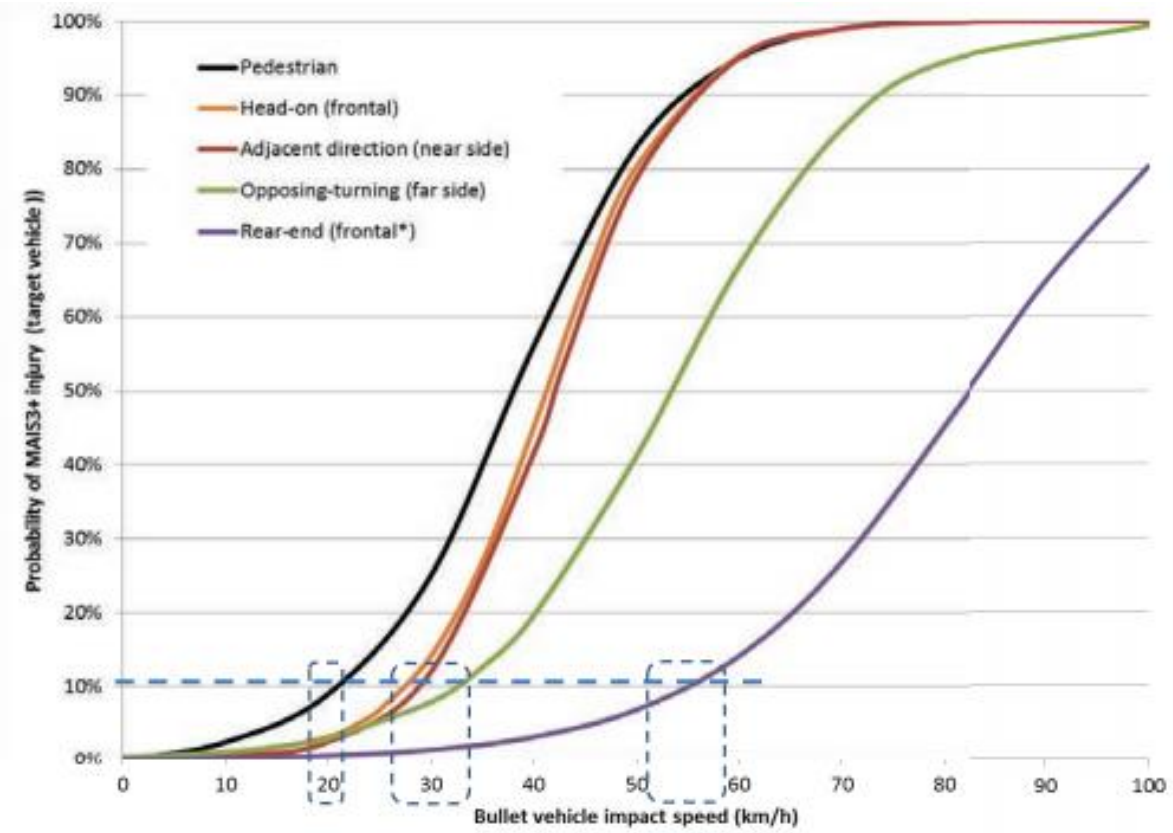
Think about this relative to your own behaviours. What risk exists that you may not be aware of or managing?



*Chris Jurewicz et al, Exploration of Vehicle Impact Speed – Injury Severity Relationships for Application in Safer Road Design, Science Direct, Volume 14, 2016, https://www.sciencedirect.com/science/article/pii/S2352146516304021.

ENERGY SAFETY CANADA

VEHICLE CRITICAL SPEEDS



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INDUSTRY TOP CAUSES OF PEDESTRIAN VEHICLE STRIKES

Safety alerts and incident reports show these recurring causes continue to result in vehicle strikes:

1. Human factors – body positioning, fit for duty, operator error.
2. Inadequate risk control - failure to control vehicle hazards and failure to have a systems that has the capacity to have a failure.
3. Inadequate communication – eye contact, hand signals, radios.
4. Visibility issues – poor lighting, not wearing high-visibility PPE.
5. Environmental factors - wind, rain and snow, ice, extreme weather conditions.
6. Poor site design – congested site.
7. Inadequate procedures - bad planning and no management of change.

PREVENTION

Everyone has a responsibility to prevent vehicle strikes through:

- Observation and intervention - being aware of the hazard, associated risks, and prepared to stop work if conditions or actions are unsafe.
- Reporting - recording all potential and actual incidents in accordance with company policy.
- Elimination – work planning, authorization and clear chain of command.
- Control – use of designated walkways, light towers, barriers, flagging, spotters, strobes, parking brake, wheel chalks, etc.
- Design and procurement – design and build vehicle and pedestrian access routes so that there is capacity to handle a worker error without a catastrophic incident, such as with the use of road-side barriers.
- Inspection - regular and periodic work site inspections. Focus on congested areas with high-traffic loads.

EXAMPLES FOR DISCUSSION

Think about these hazards and discuss within the group:

- Do we design, inspect and measure light levels on our work sites?
- Where are we complacent to vehicle line of fire hazards?
- Where and under what conditions will our next vehicle line of fire incident occur?
- What can we do today to prevent this next incident?

WHAT CAN EACH OF US DO?

- Vehicles and pedestrians do not mix
- Be on the look out for vehicle striking hazards and take action when risk exists.

REMEMBER

this…

has more hazardous energy than this…

Let’s work together and eliminate vehicle strikes!