Workplace Safety North™

MLTSD Inspection Initiative on: Motor Vehicle and Mobile Equipment Hazards in Mines and Mining Plants

1.888.730.7821 (Toll free Ontario)
workplacesafetynorth.ca

Welcome to the webinar: Be prepared for MOL inspection blitz on motor vehicle and mobile equipment hazards in Mines and Mining Plants, and All Workplaces

- Thank you for joining us!
- We will be getting started at **10:00 am ET**
- Please use the **Q&A** at the bottom of your screen for speaker questions and we will answer them at the end of the webinar.
- Please use the **chatbox** for commentary or technical questions.
- A link to the webinar recording, a copy of the presentation slides, and reference material will be emailed to registrants within a few days.

A DAY TO REMEMBER LIVES LOST.
A DAY TO RESOLVE TO MAKE WORKPLACES SAFER.

DAY OF MOURNING

APRIL 28

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ONTARIO MINE RESCUE

Webinar co-hosts

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Agenda

- Introduction
- Focus of the initiative and importance
- What MLTSD Mining Health and Safety Inspectors will be looking for during the motor vehicle and mobile equipment hazards initiative
- Pertinent Legislation
- MLTSD resources
- Ontario requirements pertaining to motor vehicle and mobile equipment hazards in mines and mining plants workplaces (Occupational Health and Safety Act, Regulation 854)
- Q & A

MLTSD Initiative: Purpose

Review and Evaluate

- Risk assessments to address hazards of interactions with mobile equipment
- Training, knowledge, and experience of mobile equipment operators
- Traffic management program
- Mobile equipment maintenance programs

Observe and Assess

- The effectiveness of mine policies, procedures, programs, including distracted driving
- Pedestrian visibility including adequate lighting, and operator line of sight restrictions
- Barriers, warning signs, or other safeguards used to protect workers from mobile equipment
- Safe parking practices including the use of wheel chocks

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Ministry of Labour, Training and Skills Development

Motor Vehicle and Mobile Equipment Hazards Initiative

Ontario Ministry of Labour Training and Skills Development initiative

01 April to 30 June 2022

Presented by:

Rick Shulist

Provincial Specialist, Mining Health and Safety Program

May 2, 2022

Ontario

Overview:

- Focus of this initiative
- Why this topic is important
- Where inspectors will go
- What inspectors will look for
- Regulatory requirements

Focus of this initiative

There are **2 focus areas** for this initiative:

1. Driver safety - hazards related to driving
2. Pedestrian safety - hazards of working around moving vehicles and mobile equipment

Compliance Assistance:

WSN Mining webinar **28 April 2022**: How to prepare for Ontario inspection initiative on motor vehicle and mobile equipment hazards

Blitz will be active from: **01 April to 30 June 2022**

Focused Inspections: **01 May to 30 June 2022**

Why this topic is important
Driver Safety

WSIB statistics for the past several years show:

Motor vehicle incidents cause more traumatic fatalities to workers each year than any other type of event.

Event	2011	2012	2013	2014	2015	2016	2017	2018
Assaults and Violent Acts	6	3	0	1	5	2	2	5
Contacts with Machinery	9	5	11	7	11	16	13	3
Drownings and Suffocations	1	1	2	5	0	2	1	0
Electric Currents	2	2	7	2	3	2	1	1
Falls	9	9	17	10	11	10	7	19
Fires and Explosions	3	0	2	3	1	1	0	2
Harmful Substances and Environments	1	1	0	5	2	1	2	1
Contact with objects or equipment	118	129	87	100	64	90	87	99
Other External Causes	2	0	1	0	1	0	1	0
Other Transport Incidents	23	23	25	20	15	12	24	18
Struck by or Caught in Objects	12	7	6	10	9	8	12	16
Total	76	70	87	65	61	64	72	74

Why this topic is important
Pedestrian safety

Here's a sampling of recent Court Bulletins:

January 2020: Lumber Mill Fatality in Chapleau Results in $250,000 Fine For Mill Owners

- A worker was killed while operating a loader with fork attachments. The **loader rolled forward and pinned the worker** between the loader and the wood bundle.

November 2019: Customer Struck by Falling Load, Loblaws Fined $80,000 in London

- A customer was injured by **products that fell from a moving forklift** driven by a worker.

August 2019: Worker Struck by Surface Rock Drill, Fine of $250,000 for Consbec Inc.

- A worker was fatally injured as a result of crushing injuries when the rock drill he was operating tipped over while tramming in a mining quarry

November 2019: Company Director Fined $10,000 for Worker Injury in Toronto

- A worker was injured when a **dump truck that was being tested for emissions moved**, pinning the worker against a waste bin.

Where inspectors will go

Any sector may be visited during this initiative

Inspectors are going to workplaces which have:

1. **Workers who drive vehicles as part of their duties with a focus on driver safety:**
   - Equipment operators
   - Supervisor and support staff
   - Contract operators on mining properties

Ontario

Where inspectors will go, continued

Inspectors are going to workplaces which have:

2. **Workers who work alongside moving vehicles or mobile equipment**
   - Support crews for the various mining operations
   - On foot workers in shops and warehouses
   - Pedestrians in parking lots and access points to buildings

Ontario

What inspectors will look for – driver safety

- procedures for vehicle pre-start checks and reporting deficiencies
- appropriate training for the vehicle operation
- safe driving practices and defensive driving
- policies and procedures for distracted driving (cell phones, electronic devices, eating, etc. while driving)
- fatigue management
- impaired driving
- loading and unloading personal and material
- speed limits
- reversing equipment, safe practices

What inspectors will look for – driver safety, continued

- parking brake and wheel chocks
- seatbelt use
- passenger safety
- line of sight
- inclement weather policies
- equipment needed in case of an emergency available, such as a first aid
- communication/provision of assistance (especially in remote areas)
- vehicle maintenance, including maintenance of any equipment found in the vehicles
- disabled equipment procedures in place
- risk assessment to protect workers

What inspectors will look for – pedestrian safety

- Is there a traffic management program?
- barriers, warning signs or other safeguards for the protection of workers near vehicles or mobile equipment
- worker visibility in mines and mining plants
- safety procedures for reversing equipment use of signaller
- loading and unloading personal and material
- line of sight awareness
- adequate lighting
- high visibility safety apparel
- ensuring unattended vehicles are immobilized and secured against accidental movement

Legislative Requirements

Occupational Health and Safety Act

- maintenance of equipment and protective devices – section 25(1)(b)
- providing information, instruction and supervision to workers to protect their health and safety – section 25(2)(a)
- take every precaution reasonable in the circumstances for the protection of a worker - section 25(2)(h)

Enforcement Position

Reg 854 – Mines and Mining Plants

- an employer shall conduct a risk assessment of the workplace for the purpose of identifying, assessing and managing hazards and potential hazards that may expose a worker to injury or illness **(section 5.1)**
- where a motor vehicle is operated on a grade or ramp, traffic control procedures shall be established including provision for the control of emergency situations. **(section 106**)

Traffic Management Program

- an employer shall develop and maintain a written traffic management program, that will include measures and procedures to prevent collisions, of motor vehicles, that may endanger the health and safety of workers by addressing hazards relating to reduced or impeded visibility of motor vehicle operators; and protect the health and safety of workers and pedestrians who may be endangered by the movement of a motor vehicle. (section 105.1)

Regulatory Requirements

Regulation 854 – Mines and Mining Plants

- a haulage way used by motor vehicles shall, where it is regularly used by pedestrians and it is less than two metres wider than the maximum width of a motor vehicle using the haulage way, have safety stations as prescribed in section 114 at intervals not exceeding thirty metres. (Section 112)

Regulatory Requirements

Regulation 854 – Mines and Mining Plants

- haulage roads on surface shall be designed, constructed and maintained to, minimize hazards from the slipping or skidding of vehicles; enable vehicles to pass each other safely; and avoid steep grades wherever practical. The open side of a ramp haulage road in a surface mine shall be provided with a suitable protective barrier. Every haulage road on surface shall be kept in good repair. (section 116)

Regulatory Requirements

Regulation 854 – Mines and Mining Plants

- effective illumination shall be provided in both underground and surface operations including the wearing of high visibility safety apparel as set out in the regulation. (section 262-263)
- When material is dumped from a vehicle that is occupied by a person, the dump point shall include features designed to prevent the vehicle from going over a bank, over a bench or into a raise or other open hole. (section 118)

MLTSD Resources

MLTSD resources

Traffic management programs in mines

Risk Assessment and Management for Mines and Mining Plants

Brakes for Vehicles in Mines

High Visibility Safety Apparel for Mines and Mining Plants

Mobile Equipment landing page on the MLTSD website

Additional Resources

CCOHS Driving Health and Safety Fact Sheets

IHSA Road Safety Solutions

WSN MVI landing page with resources to Create a Safe Driving Program

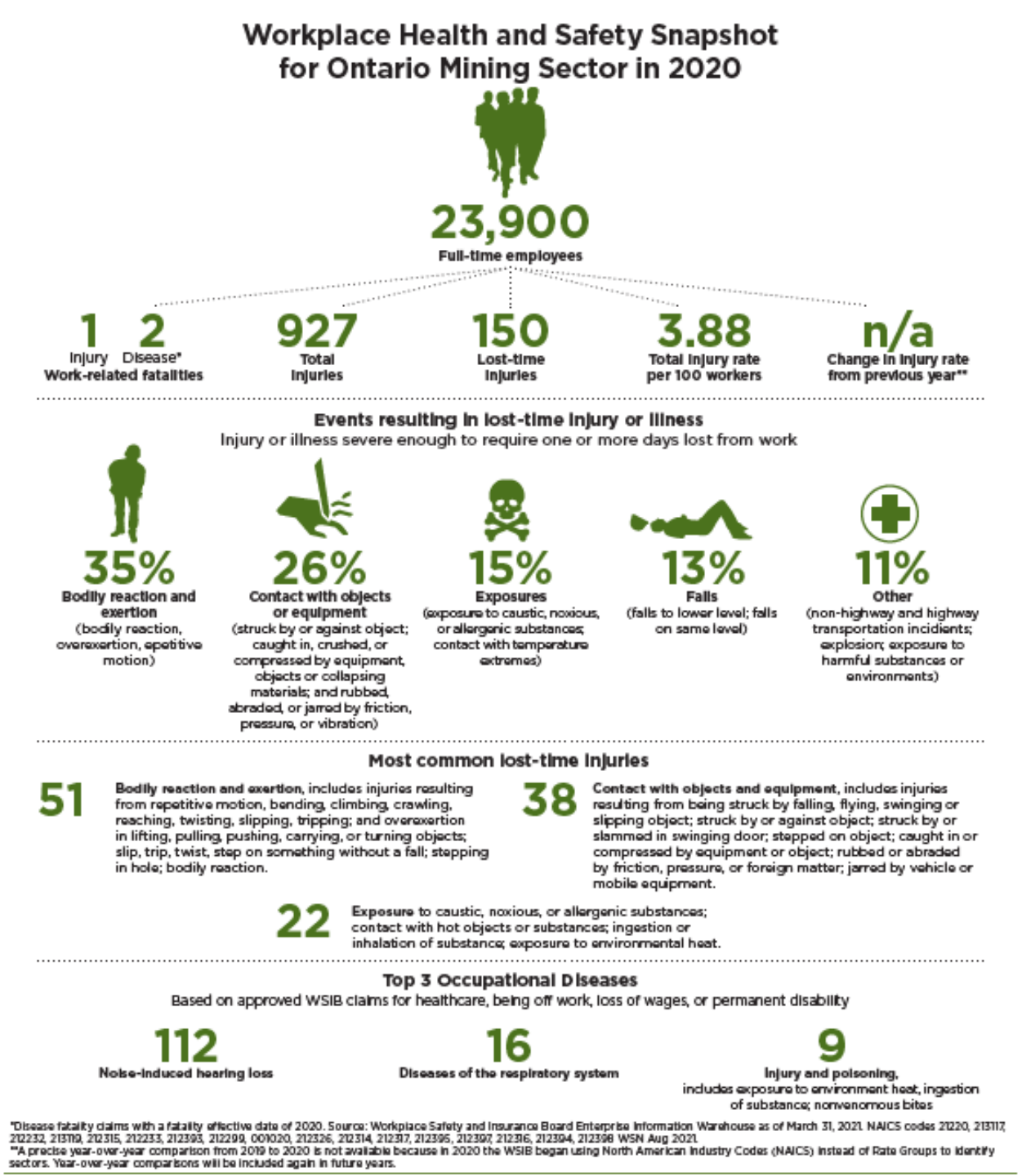
WSPS safe driving posters and a course in backing safely

PSHSA e-learning module in community care driving and a Fast Fact on driving safety for health care providers

MTO - Ontario Road Safety Annual Report

Mining Health and Safety Infographic

The traumatic fatal injury of a worker was a result of a run of muck.



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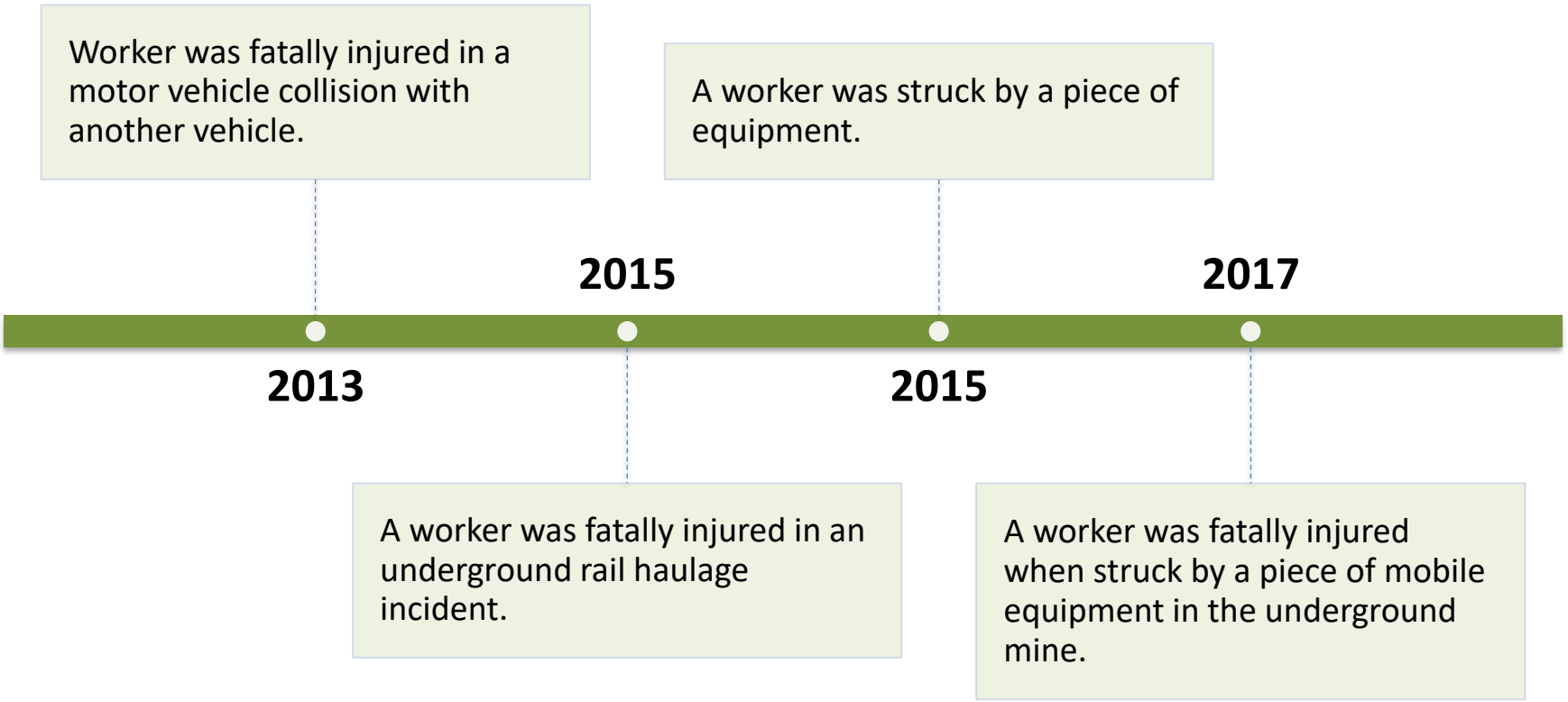
Mobile Equipment

Traumatic Fatal Injuries 2012-2020

From 2012 to 2020, there were four (4) traumatic fatal injuries in Ontario mining, steel and other smelting sector involving mobile equipment.



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Traffic Management Program

Develop and maintain a written traffic management program including:

- Measures and procedures to prevent motor vehicle collisions by addressing hazards related to reduced visibility of motor vehicle operators.
- Protect the health and safety of workers who may be endangered by a moving motor vehicle.

The program must be reviewed at least annually.

Equipment Maintenance Program

Comprehensive preventive maintenance is essential to reducing hazards associated with mobile equipment including:	Ensure maintenance program is in place and strictly followed
	A risk assessment to create an inventory of tasks for preventive maintenance on all equipment
	A method and schedule to determine when preventive maintenance should take place
	A recording system to document tasks associated with preventive maintenance
	Supervisors to ensure preventive maintenance is taking place

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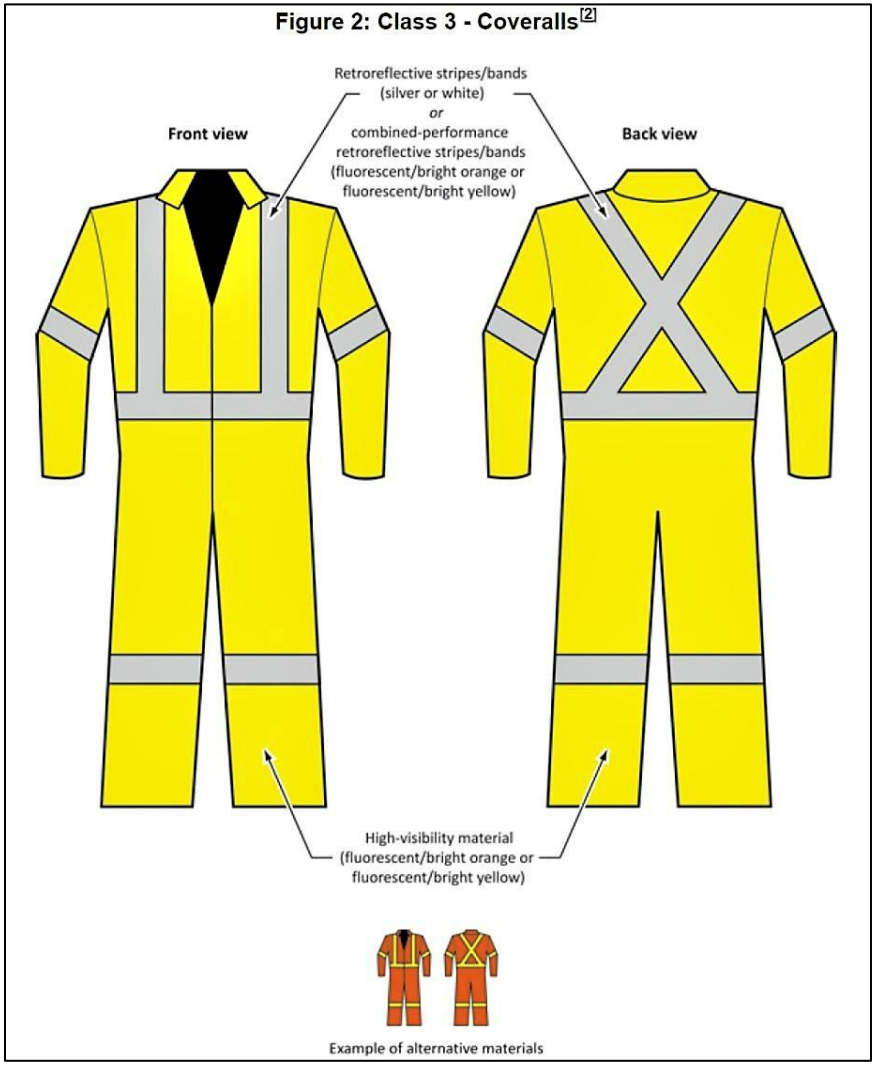
MLTSD Visibility Guideline

The MLTSD recommends CSA Class 3/Level 2 High-Visibility Safety Apparel for underground mining environments.

Distinguishing features:

- Parallel stripes on front
- ‘X’ pattern on back
- Full torso stripe
- Markings on arms & legs

Source - https://www.ontario.ca/page/high-visibility-safety-apparel-mines-and-mining-plants



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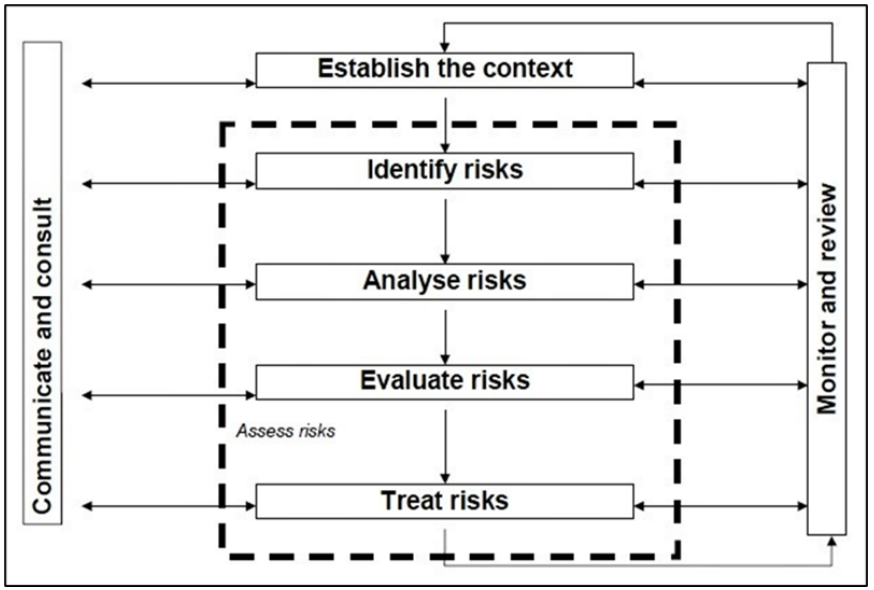
Risk Assessment and Overview of Hazards

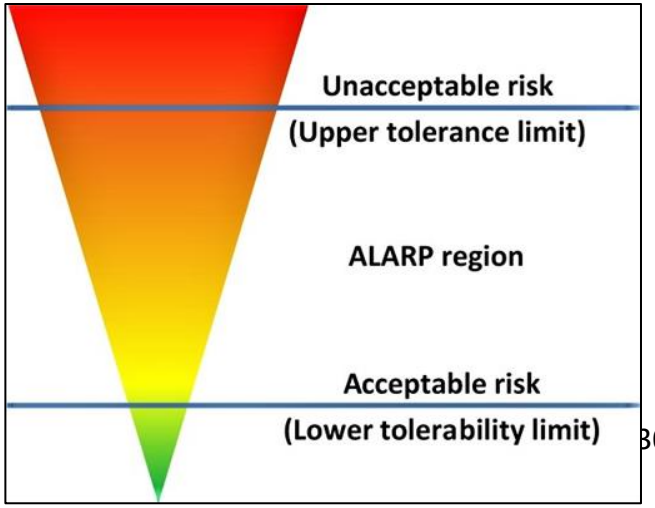
Risk assessment process:

- Identify all hazards related to mobile equipment travel
- Assess and rate the risk, evaluate existing controls, add controls:

Overview of Hazards associated with:

- Ramp Travel
- Operating equipment around open holes
- Roadway Lighting
- Vehicle Parking
- Access to shops and equipment maintenance
- Pedestrian Visibility





Traffic Control - Ramp Travel

Factors to consider for mobile equipment/ vehicle travel on a ramp system:	Equipment right-of-way
	Pedestrians
	Tracking system
	Radio failure
	Power failure
	Encountering smoke or stench gas
	Breakdown on ramp
	Fog

Traffic Control - Operating mobile equipment around open holes

Factors to consider for operating mobile equipment around open holes:	Dumping at the edge of an open hole (e.g., open stope or pass)
	Bumper design - sufficient size and secured in a fashion to prevent equipment from falling over the edge.
	Barricades and warning signs - maintained in proper condition to ensure that driving of equipment into open hole is avoided

Traffic Control - Lighting

Factors to consider:	Ambient lighting underground and surface
	At underground entrances
	In areas adjacent to the workplace where workers are required to travel
	In circumstances where the nature of the equipment or the operation may create a hazard to a worker due to insufficient lighting

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Traffic Control - Parking

Factors to consider:	Orderly parking of equipment
	Parked vehicle with warning lights
	Chocking
	Circle check
	Vehicle start-up
	Fueling

Traffic Control - Parking

Factors to consider:	Clearances on entry
	Safety of workers inside the shops
	Signal person
	Remove mechanics from vulnerable positions during the positioning of vehicles
	Procedures for working on tires and assemblies
	Chocking

Technology

The implementation of a collision management system:

- Cameras
- Radio frequency identification (RFID) tracking system
- Proximity detection
- Levels of intervention
  - Use of strobe lights in the back of hard hats
  - Use of strobe lights mounted on walls where service crew are performing work

The advent of battery /electrically propelled haulage vehicles:

- Quiet

Visibility Awareness Training

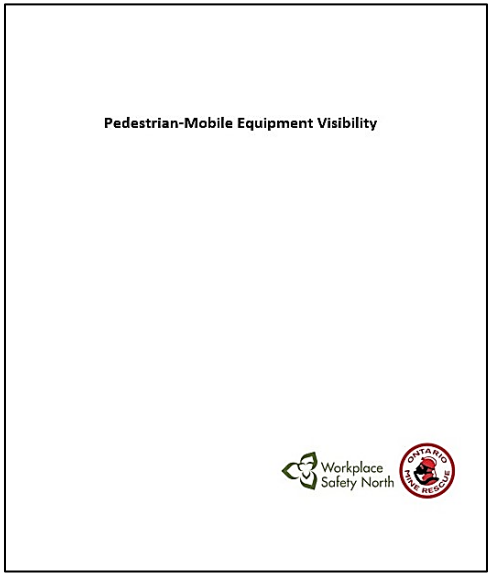
No single measure is as important in reducing the number of incidents and the likelihood of incidents as training workers.

Training should focus on:

- Visibility/line-of-sight information
- Specific visibility and travel risks that can be encountered underground
- Pedestrians trained to use eyes and ears, safety bays and lamp signals
- Operators trained in emergency warning devices and procedures in the event of mechanical failure
- Training for both operators and pedestrians in any warning systems the company is using

Information and Resources

- **Pedestrian-Mobile Equipment Visibility** - currently being reviewed, formatted and branded - will be available on WSN's website for free download



- **WSN Recommended Practices for Working Safely Around Blasthole Stopes (**Free download)
- https://www.workplacesafetynorth.ca/sites/default/files/resources/Mining-Working-Safely-Around-Blasthole-Stopes-Workplace-Safety-North.pdf.

Information and Resources

- **Safe Operation of Remote-Controlled Equipment**

  https://www.workplacesafetynorth.ca/sites/default/files/resources/Safe-Operation-of-Remote-Controlled-Equipment.pdf.

  Free download

workplacesafetynorth.ca