



# Safety and Health Snapshot for the Western Australian minerals sector

## Vehicle and mobile equipment rollovers

Issued June 2022

Vehicle and mobile equipment rollovers can result in serious injuries, due to the operator being struck or ejected. In the majority of cases, the severity of these injuries has been minimised due to operator protective devices such as roll over protective structures (ROPS), falling object protective structures (FOPS), secure seating and seatbelts. Analysis of the injury and incident data indicates that the vast majority are related to human factors and issues associated with the operator. Examples include operator fatigue, inadequate training, excessive speed, and not operating to the environmental conditions. To reduce incidents related to mechanical failure, it is important that the chain of responsibility with respect to mobile plant is followed, which places obligations on every person involved in any phase of the plant life cycle from design to the end user.

This snapshot covers the period from 1 January to 31 December 2021 (unless stated otherwise). During this period there were a total of 16 injuries and 88 notifiable incidents related to vehicle and mobile equipment rollovers.

For more information about occupational safety and health, visit our website [www.dmirs.wa.gov.au](http://www.dmirs.wa.gov.au)

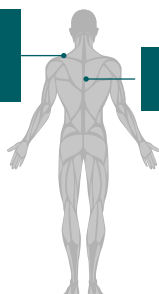
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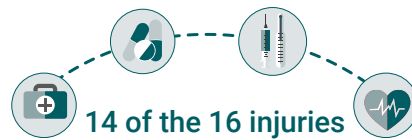
### Injuries by part of body (top 2)

19% shoulder



19% back

### Injuries by severity



related to access to vehicles and mobile equipment were **classified as serious**

**7 of the 16 injuries** were lost time

### Injuries by age group

Age group with the **greatest percentage** of injuries was **20-29 (44%)**



### Injuries by employment type



### Injuries by days lost



**364** work days on alternative duties

### Injuries by location



**38%** open pit production and development areas



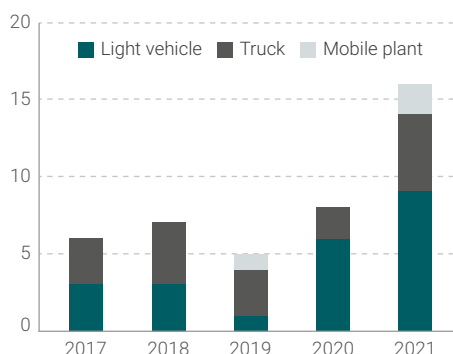
**31%** underground workplaces

### Injuries by nature

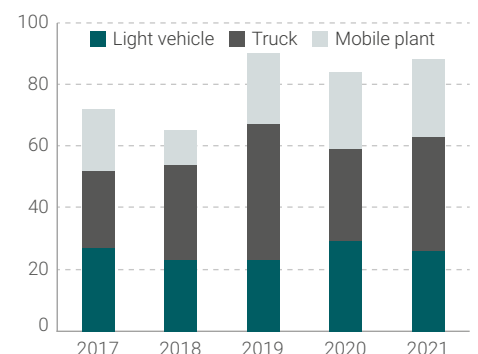
**38%** were sprains and strains

**25%** were fractures

### Vehicle and mobile plant rollover injuries from 2017 to 2021



### Vehicle and mobile plant rollover incidents from 2017 to 2021



## Spotlight on Mines Safety Significant Incident Report No. 267

### Haul truck operator loses control descending ramp on haul road – fatal accident

15 August 2018



#### Contributory causes

- The truck exceeded the speed at which the electric braking system could stop it.
- The service or mechanical brake was not engaged for an emergency stop.
- The truck was fully loaded descending a long slope.
- Immediately preceding the crest of this long slope there was another crest followed by a short downhill and then an uphill section in the form of a saddleback.

## Spotlight on Mines Safety Significant Incident Report No. 230

### Dump truck roll-over – fatal accident

6 September 2015



#### Direct causes

- The dump truck mounted the hard rock windrow, changing its centre of gravity and causing it to roll over.

## Some recent incidents

26/12/2020

While travelling up a processing plant ramp, a water truck stalled and the engine stopped. The operator applied the service brake, but it had no effect and the truck rolled backwards. The water truck contacted the wall at an angle causing it to roll onto the passenger's side. The operator removed the windscreen and exited the vehicle. The operator was taken to the site medical facility and treated for a muscular injury.

23/10/2020

A dump truck was hauling waste at an open pit when it mounted a stockpile on the waste dump and tipped onto its side. The operator called an emergency and notified a supervisor. The emergency response team arrived and extracted the operator who was transferred to a regional hospital and treated for fractures to the ribcage and an abrasion to the shin.

28/2/2020

A worker had left an underground mine site in a light vehicle when it lost control on a bend, mounted a windrow and rolled a number of times before coming to a rest on its side. The worker called emergency services and was transported to a regional hospital for treatment to injuries to their head and shoulder.

14/01/2021

Two workers were travelling in a light vehicle along an open pit access road when the driver failed to navigate a bend in the road and lost control of the vehicle. The vehicle rolled twice, coming to rest in an upright position on the right side of the road. The vehicle sustained significant damage and the two workers were taken to the regional hospital for examination of minor injuries.

## Safe work practices



Employees should be trained and be competent to operate the equipment and follow site traffic management rules and procedures



Ensure your site has regular road maintenance, adequate signage, visible road markings and sufficient lighting



Ensure there are roll over protective structures (ROPS) on mobile equipment



Ensure the ROPS structure design meets the accepted performance standard or specification



Ensure seatbelts are properly maintained, and ensure operators wear their seatbelts at all times whilst operating the vehicle or mobile equipment



Restrict the speed where the vehicle or mobile equipment can be operated



Do not exceed the load or lifting capacity of the vehicle or mobile equipment



Avoid accelerating or decelerating too quickly, especially when carrying a load



Maintain appropriate speed when navigating around corners, curves, and ramps



Employees should be well rested before work, and employers should set up fatigue management plans