

# WORK-RELATED INJURIES IN AUSTRALIA, 2005–06

## Transport and storage Industry

OCTOBER 2009



**safe work australia**

## **Disclaimer**

The information provided in this document can only assist you in the most general way. This document does not replace any statutory requirements under any relevant State and Territory legislation. Safe Work Australia is not liable for any loss resulting from any action taken or reliance made by you on the information or material contained on this document. Before relying on the material, users should carefully make their own assessment as to its accuracy, currency, completeness and relevance for their purposes, and should obtain any appropriate professional advice relevant to their particular circumstances.

To the extent that the material on this document includes views or recommendations of third parties, such views or recommendations do not necessarily reflect the views of Safe Work Australia or indicate its commitment to a particular course of action.

Online Publication Copyright notice

© Commonwealth of Australia 2009

ISBN 978-0-642-32909-7

This work is copyright. You may download, display, print and reproduce this material for your personal, non-commercial use or use within your organisation, provided that an appropriate acknowledgement is made (retaining this notice), and the material is not altered or subjected to derogatory treatment. Apart from any use as permitted under the Copyright Act 1968, all other rights are reserved. Requests and inquiries concerning reproduction and rights should be addressed to Commonwealth Copyright Administration, Attorney-General's Department, Robert Garran Offices, National Circuit, Barton ACT 2600 or posted at <http://www.ag.gov.au/cca>

## Foreword

Safe Work Australia principally uses workers' compensation claims data to measure occupational health and safety (OHS) performance in Australia. The claims data are collated in the *National Data Set for Compensation Based Statistics* (NDS) and are published annually in the *Compendium of Workers' Compensation Statistics, Australia*. This publication is a key reference documenting patterns of work-related injuries and diseases incurred by Australian workers and the cause of that injury or disease. For the purposes of this report, the expression 'work-related injury' will be used to represent all work-related conditions, including work-related diseases.

While the NDS is a valuable tool for monitoring OHS, it does not provide information on work-related injuries for groups not well covered by workers' compensation schemes, such as self-employed workers. It is estimated that workers' compensation schemes, and therefore the NDS, covered only 88%<sup>1</sup> of the workforce in 2005–06. In addition, the NDS does not contain information on some types of employment conditions, such as shiftwork or access to paid leave entitlements. Finally, the NDS is unable to provide any information on work-related injuries where workers' compensation was not sought. Therefore, although the NDS generally provides a good picture of the characteristics of work-related injuries, it underestimates the true number of work-related injuries occurring each year.

To address this situation, the National Occupational Health and Safety Commission (now known as Safe Work Australia) agreed to contribute funding towards a national survey of work-related injuries run by the Australian Bureau of Statistics (ABS) as part of the Multi-purpose Household Survey. The *Work-Related Injuries Survey* (WRIS) was conducted for the period 2005–06 with results released in December 2006. In this survey, participants aged 15 years and over, were asked to recollect and relate a range of details about their most recent work-related injury or illness, no matter how minor, that occurred within the last 12 months. The survey collected information on labour force characteristics (e.g. industry, occupation) and personal demographics (e.g. age, sex) which are useful when making comparisons to the NDS. The WRIS also collected information on employment arrangements, such as whether the worker worked under shift arrangements, worked part-time or had access to paid leave. This type of information is not collected in the NDS. Importantly, the WRIS also collected information about whether or not workers' compensation was sought, and if not, why not.

Unless otherwise stated, all data presented in this report have relative standard errors (RSEs) less than 25%. Data with RSEs greater than 50% have generally been suppressed. Unfortunately, this has, on occasions, limited the scope of the reports.

This report is one in a series of industry based reports that explore the types and causes of work-related injury and how these compare to those in the NDS.

---

<sup>1</sup> The percentage of employees is calculated from the Australian Bureau of Statistics, *Work-related Injuries Australia* (Cat. No. 6324.0)



# Contents

Foreword	iii
Summary of findings	vii
General Trends	1
Sex	1
Age	1
Duration of absence from work	2
Entitlement to paid leave	3
Full-time/part-time status	4
Shiftwork	5
Type of injury	6
Mechanism of injury	6
Comparison with the NDS	7
Type of injury	7
Mechanism of injury	8
Reasons for not applying for workers' compensation	9
Conclusion	10
Explanatory Notes	11



## Summary of findings

The following key findings are contained in this report:

- Transport and storage industry workers experienced 86 injuries per 1000 workers in 2005-06 which was 25% higher than the rate for all Australian workers of 69 injuries per 1000 workers.
- Male workers accounted for three-quarters of all workers in the Transport and storage industry and experienced 96 injuries per 1000 workers.
- Workers aged 35-44 years recorded the highest incidence rate of work-related injury: 119 injuries per 1000 workers. This was 75% higher than the rate for all Australian workers of this age who recorded 68 injuries per 1000 workers.
- Four in ten injuries required no time off work.
- Nearly one in three workers in the Transport and storage industry worked under shift arrangements. These workers experienced 125 injuries per 1000 shiftworkers compared to 71 injuries per 1000 non-shiftworkers.
- *Sprains and strains* accounted for one in three injuries.
- *Lifting, pushing or pulling object* was the main cause of injury in one in three injuries.
- Compensation data provides a good picture of the way in which serious injuries occurred and the types of injuries incurred in the Transport and storage industry except possibly for injuries attributed to Body stressing.





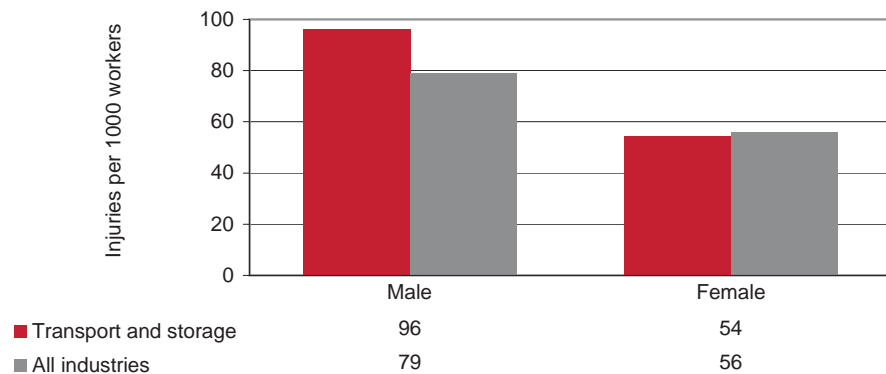
## General Trends

There were 460 000 workers in the Transport and storage industry in 2005–06, and around 40 000 of these workers experienced a work-related injury. This equates to 86 injuries per 1000 workers: 25% higher than the incidence rate for all Australian workers of 69 injuries per 1000 workers.

### Sex

In 2005-06, 77% of workers in the Transport and storage industry were male. This is considerably higher than the percentage of men in the Australian workforce as a whole (55%). Figure 1 shows that male workers experienced 96 injuries per 1000 male workers, which was nearly double the incidence rate for female workers 54 injuries per 1000 female workers. The incidence rate for male workers in the Transport and storage industry was also substantially higher than the incidence rate for male workers in the Australian workforce as a whole. While the incidence rate for female workers in the Transport and storage industry was similar to the rate for all female Australian workers, this estimate has a high relative standard error and should be treated with caution.

**Figure 1 Work-related injuries in the Transport and storage industry: Incidence rate by sex**



### Age

Figure 2 shows that the age profile of workers in the Transport and storage industry followed the same general pattern as that for the Australian workforce as a whole but with a smaller percentage of workers in the 15–24 years age group.

**Figure 2 Workers in the Transport and storage industry: Percentage by age**

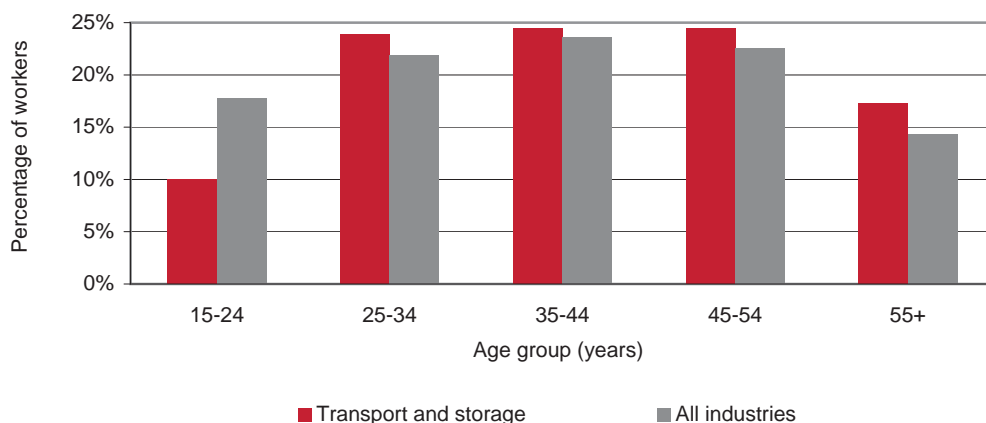
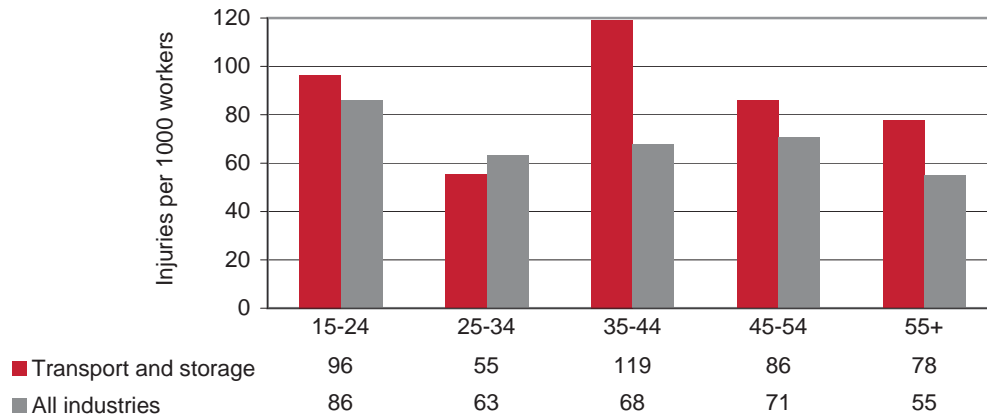


Figure 3 also shows that incidence rates by age for workers in the Transport and storage industry followed the same pattern as the Australian workforce as a whole except for the 35-44 years age group which recorded an incidence rate considerably higher than the rate for all Australian workers of the same age.

**Figure 3 Work-related injuries in the Transport and storage industry: Incidence rate by age\***

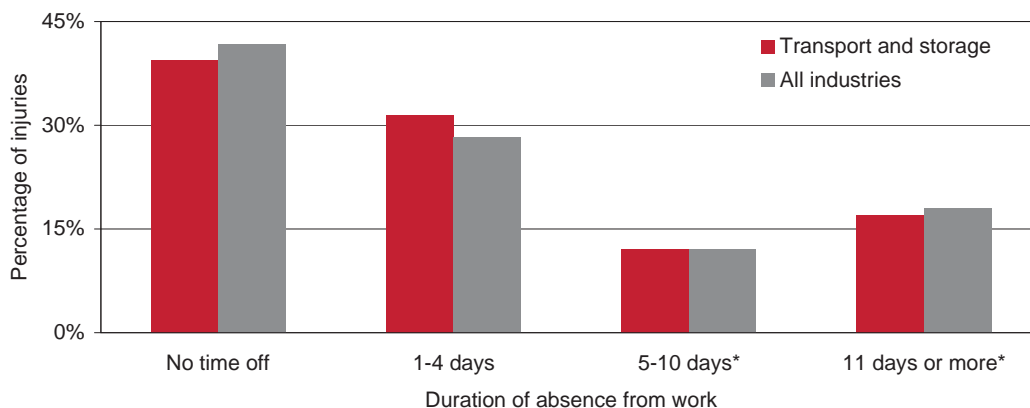


\* Data for the Transport and storage industry are subject to standard errors between 25% and 50% and should be treated with caution.

## Duration of absence from work

Figure 4 shows that the profile of time required to be absent from work due to injuries incurred by Transport and storage workers followed the same pattern as the Australian data. These data show that around four in ten injuries required no time off work.

**Figure 4 Work-related injuries in the Transport and storage industry: Percentage by duration of absence from work**



## Entitlement to paid leave

In 2005-06, 88% of workers in the Transport and storage industry were employees with the remainder self-employed workers. Of the employees, 79% were entitled to paid leave. This was higher than the percentage of all Australian workers who were entitled to paid leave (77%). Figure 5 shows that employees with access to paid leave recorded an incidence rate of 112 injuries per 1000 workers which was considerably higher than the rate for employees without access to paid leave of 81 injuries per 1000 workers.

Figure 5 also shows that the rate for Transport and storage workers entitled to paid leave was considerably higher than the Australia rate for the same group of workers.

**Figure 5 Work-related injuries in the Transport and storage industry: Incidence rate by leave entitlement and industry**

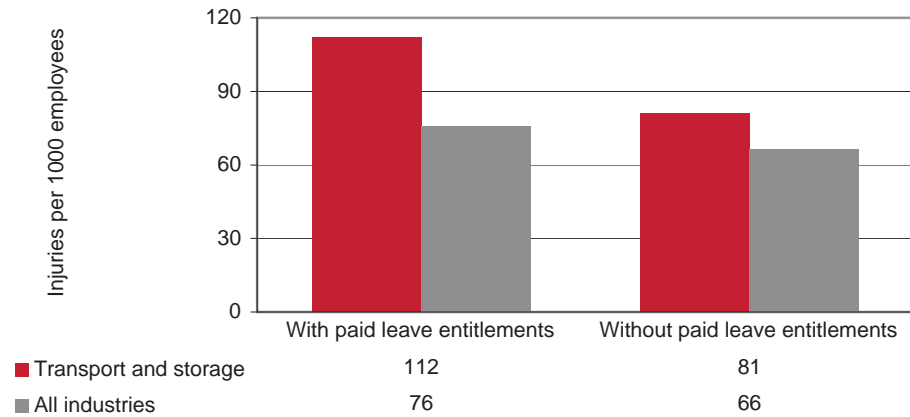
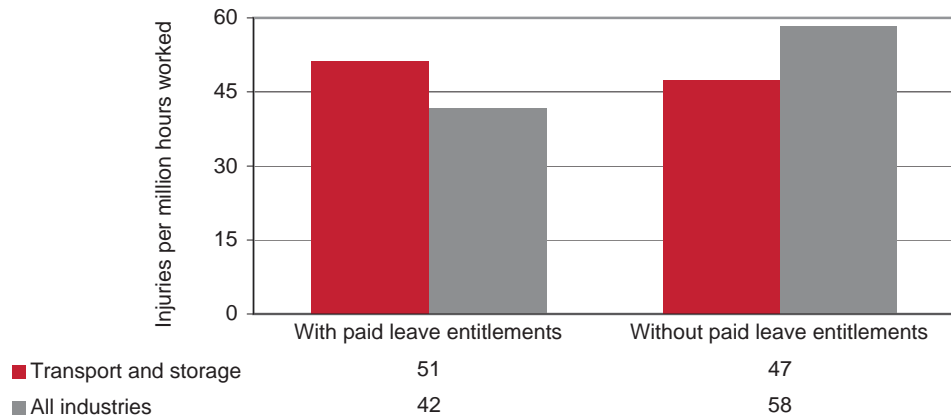


Figure 6 shows that when hours worked were considered that employees recorded similar rates of injury regardless of whether they had access to paid leave or not. This is quite a different situation to the Australian workforce as a whole where employees without access to paid leave recorded an injury rate per hour worked 38% higher than employees with access to paid leave.

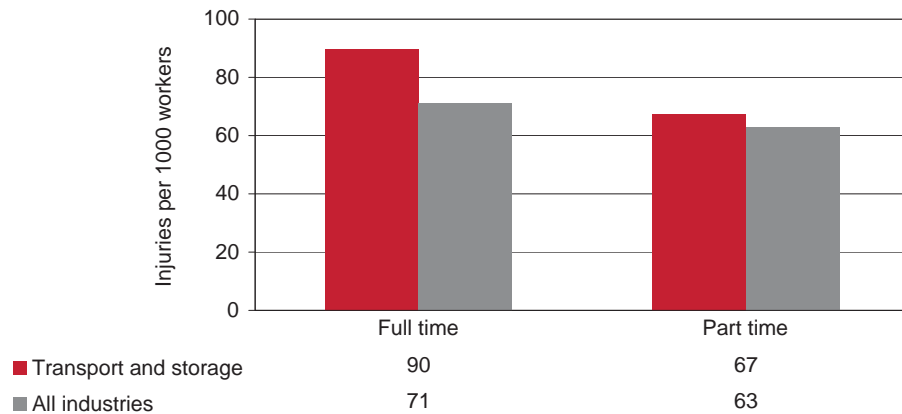
**Figure 6 Work-related injuries in the Transport and storage industry: Frequency rate by leave entitlement and industry**



### Full-time/part-time status

The Transport and storage industry is dominated by full-time workers, with only 12% working part-time compared to 29% of workers in the Australian workforce as a whole. Figure 7 shows that full-time workers in the Transport and storage industry recorded 90 injuries per 1000 full-time workers, notably higher than the rate recorded by full-time workers in the Australian workforce as a whole of 71 injuries per 1000 full-time workers. While the data also indicates that part-time workers recorded an incidence rate similar to the rate for all part-time Australian workers, these data are subject to high relative standard errors and should be used with caution.

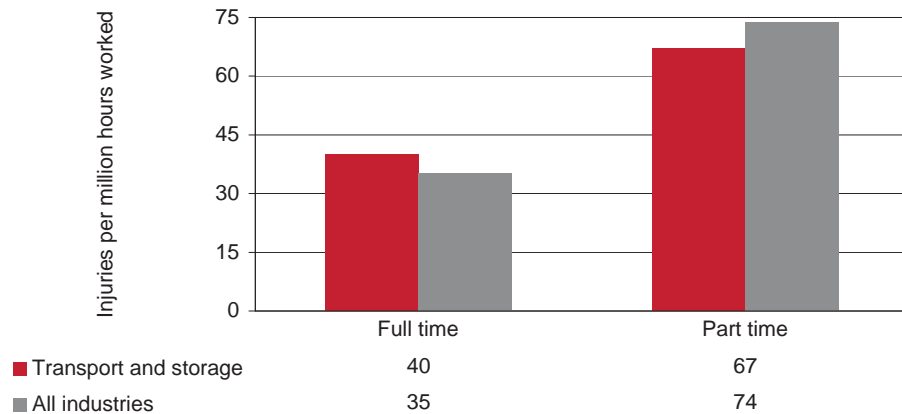
**Figure 7 Work-related injuries in the Transport and storage industry: Incidence rate by full-time/part-time status\***



\* The incidence rate for part-time workers in the Transport and storage industry has a relative standard error between 25% and 50% and should be used with caution.

Figure 8 shows that when hours worked were considered, part-time workers recorded only a considerably higher rate of injury compared to full-time workers similar to the pattern recorded by the Australian workforce as a whole where part-time workers recorded an injury rate per hour worked nearly double that of full-time workers.

**Figure 8 Work-related injuries in the Transport and storage industry: Frequency rate by full-time/part-time status\***



\* The frequency rate for part-time workers in the Transport and storage industry has a relative standard error between 25% and 50% and should be used with caution.

## Shiftwork

Shift workers made up 29% of the Transport and storage workforce. This is nearly double the percentage in the Australian workforce as a whole (16%).

Shift workers in the Transport and storage industry recorded an incidence rate considerably higher than non-shift workers (125 injuries per 1000 shiftworkers compared to 71 injuries per 1000 non-shiftworkers). Figure 9 shows that this was a similar pattern to that recorded by the Australian workforce as a whole, though the Transport and storage rates for both groups of workers were higher than for the Australian workforce as a whole.

**Figure 9 Work-related injuries in the Transport and storage industry: Incidence rate by shiftwork and industry**

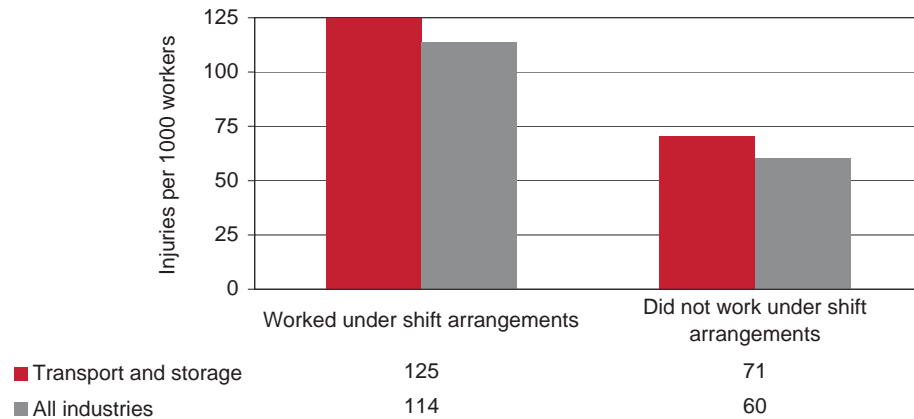
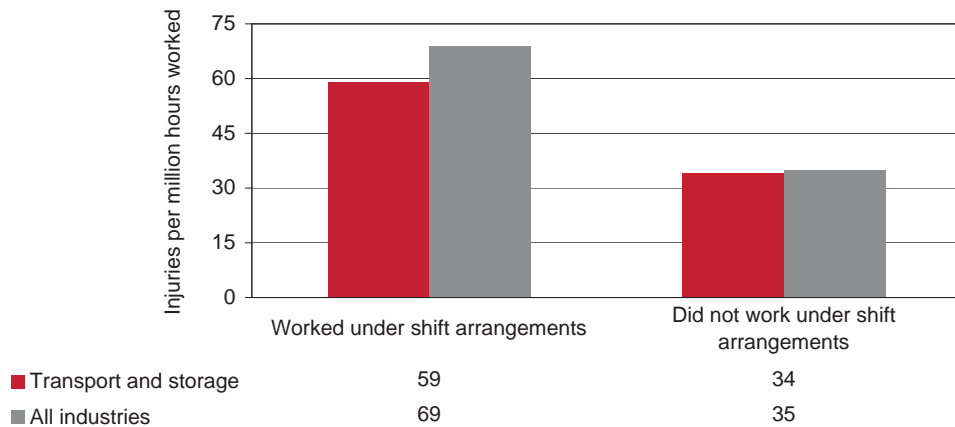


Figure 10 shows that when hours worked were considered the percentage difference in injury rates between those that worked under shift arrangements and those that didn't was only slightly reduced. This is a similar situation to the Australian workforce as a whole where shiftworkers recorded an injury rate per hour worked nearly double that of non-shiftworkers.

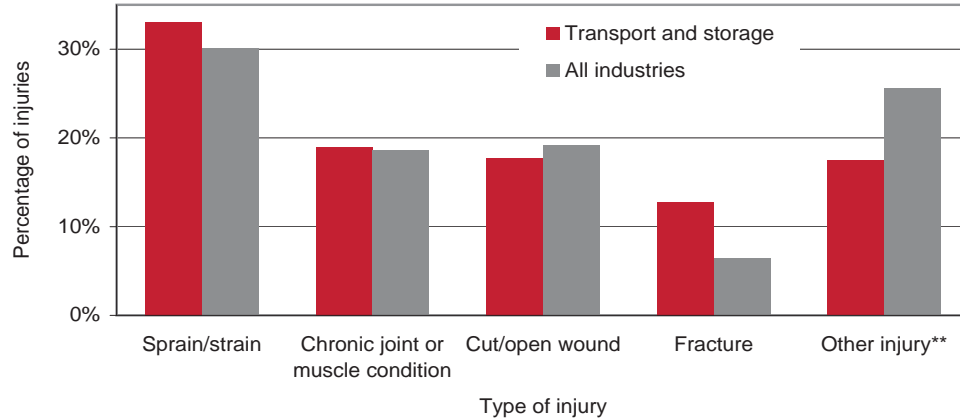
**Figure 10 Work-related injuries in the Transport and storage industry: Incidence rate by shiftwork and industry**



## Type of injury

The most common type of work-related injury experienced by Transport and storage workers was Sprains/strains (33% of all injuries). This was followed by Chronic joint or muscle conditions (19%) and Cuts/open wounds (18%). This is a similar profile to that shown by the data for the Australian workforce as a whole except that the Transport and storage industry shows a greater tendency to incur a greater percentage of injuries due to Fracture than the Australian workforce as a whole.

**Figure 11 Work-related injuries in the Transport and storage industry: Percentage of injuries by type of injury**

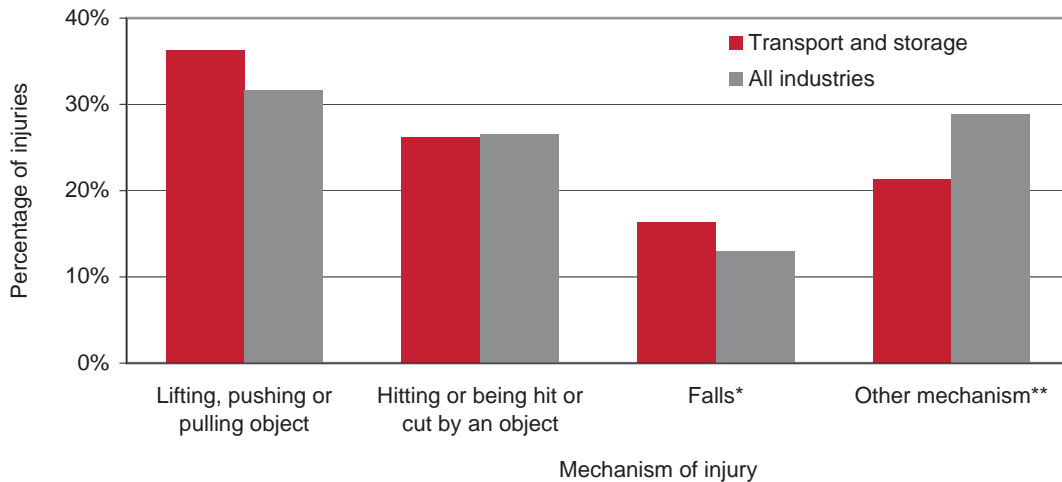


\* WRIS data except for Sprain/strain have RSEs between 25% and 50% and should be used with caution.  
 \*\* Other injury includes Fracture; Crushing injury; Superficial injury and Stress or other mental condition.

## Mechanism of injury

Figure 12 shows that the two most common means by which Transport and storage workers were injured was by Hitting or being hit or cut by an object and Lifting, pushing or pulling object. These were also the two most common mechanisms of injury for all Australian workers. The profile by mechanism of injury for the Transport and storage industry was similar to that for the Australian workforce as a whole.

**Figure 12 Work-related injuries in the Transport and storage industry: Percentage of injuries by mechanism of injury**



\* WRIS data for Falls has an RSE between 25% and 50% and should be used with caution.  
 \*\* Other mechanism includes Prolonged standing, working in cramped or unchanging position, Vehicle accident, Exposure to mental stress, and Long term exposure to sound.

## Comparison with the NDS

There are some significant differences in the scope of information published in the WRIS compared to the NDS which need to be addressed prior to undertaking a comparison.

The published NDS data only include information on claims lodged by employees with serious injuries: those requiring an absence from work of one week or more or where a permanent incapacity or death has occurred. The WRIS data include all injuries from all workers.

The first adjustment to be made is to ensure both datasets are scoped to only include injuries with similar periods of time lost. For the NDS, the data have been restricted to only include claims where strictly one or more weeks of time lost was recorded. For the WRIS, the data have been restricted to only include injuries which required five or more days absence from work. The term 'serious injury' will be used to represent this restricted scope.

The second important issue is that the NDS only includes injuries incurred by employees, whereas the WRIS includes injuries incurred by all workers. In the Transport and storage industry 88% of workers are employees. Restricting the WRIS to include only serious injuries incurred by employees, identified 11 200 employees with serious injuries of which 8800 said they had applied for and received workers' compensation.

For the same period, the NDS recorded 10 600 claims which involved one or more weeks off work. Some of the difference between the two datasets may be explained by the NDS including claims for diseases that may have been diagnosed many years prior (such as deafness) whereas the WRIS only includes cases where the initial diagnosis occurred within the twelve months prior to the survey. This however, is not likely to explain all the difference in the results and it is likely that sample design issues have resulted in the WRIS recording 80% of the number of injuries reported by the NDS.

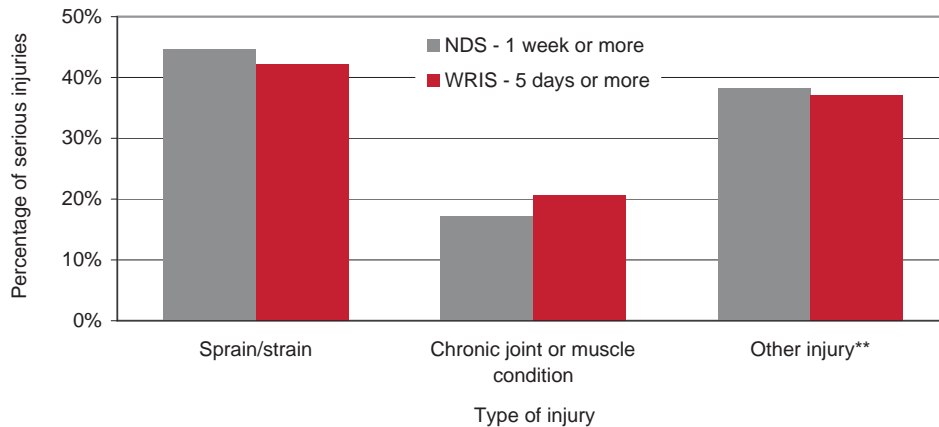
When the data were scoped to the same period of time lost and including employees only, the WRIS produced an incidence rate of 28 serious injuries per 1000 employees which was very similar to the 26 serious injuries per 1000 employees in the NDS. The WRIS incidence rate for all workers was 25 serious injuries per 1000 workers which was due to there being very few injuries recorded by the non-employee group.

The following analysis uses serious injuries to all workers when comparing to the NDS. This will allow conclusions to be drawn on whether the NDS represents the pattern of injuries incurred by all workers in the Transport and storage industry. However, due to the small sample size in the WRIS, the WRIS data should only be used as indicative of trends.

### Type of injury

Figure 13 shows that when the NDS and WRIS data for serious injuries were compared by type of injury, they showed very similar profiles. Due to the small sample size of the WRIS, data by type of injury were only able to be shown for the two most common types of serious injury in the Transport and storage industry. These were both musculoskeletal conditions and accounted for just over 60% of all serious injuries in both datasets.

**Figure 13 Serious work-related injuries in the Transport and storage industry: Percentage by type of injury\* and dataset**



\* The WRIS data shown have RSEs of between 25% and 50%, and should be used with caution.  
 \*\* Other injury includes Fracture; Cut or open wound; Crushing injury, internal organ damage or amputation; Superficial injury; and Stress or other mental condition.

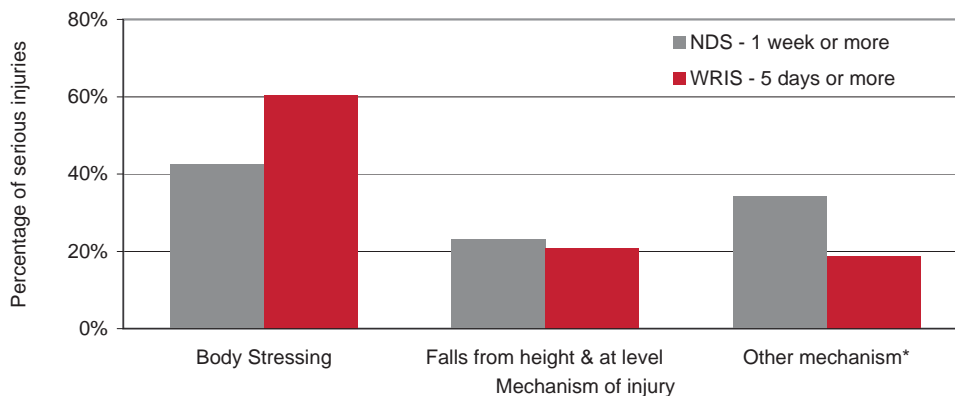
## Mechanism of injury

The NDS and WRIS use different classification systems for recording the mechanism of injury. For this analysis, the NDS mechanism of Body stressing has been compared to the combination of the WRIS mechanisms of Lifting, pushing or pulling object, Repetitive movement and Prolonged standing, working in cramped or unchanging position. More information on the difference in classification systems can be found in the report Comparison of compensation data to all incurred work-related injuries.

Figure 14 shows that Body stressing accounted for a much greater percentage of serious injuries in the WRIS than in the NDS (61% compared to 42%). The higher WRIS result may be due to the difficulty in attributing chronic muscle conditions to work. While this pattern has been seen in the other industries profiled in this series, the Transport and storage industry recorded the largest percentage difference in the two datasets for Body stressing injuries.

Similar percentages were recorded by both datasets due to falls. Unfortunately, the small sample size of the WRIS, has restricted any additional information on other cause of injuries.

**Figure 14 Serious work-related injuries in the Transport and storage industry: Percentage by mechanism of injury and dataset**



\* The WRIS data for Other mechanism has an RSEs of between 25% and 50%, and should be used with caution. Other mechanism includes Hitting or being hit by moving objects; Sound and pressure; Heat, radiation and electricity; Chemicals and other substances; and Mental stress.



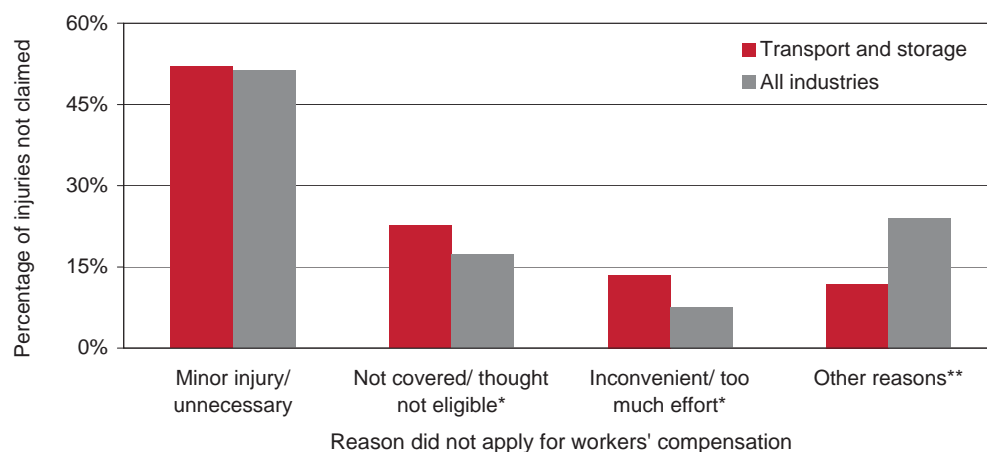
## Reasons for not applying for workers' compensation

Of the 40 000 Transport and storage employees who experienced a work-related injury in 2005–06, 18 000 did not apply for workers' compensation. This means 55% of injured Transport and storage employees applied for compensation which is considerably higher than the 38% of injured Australian employees who applied for compensation for their work-related injury.

Figure 15 shows that of the injured employees in the Transport and storage industry who did not apply for workers' compensation, half felt their injury was only minor or that it was not necessary to claim. This reason was cited by the same percentage of injured employees in the Transport and storage industry as in the Australian workforce as a whole.

Figure 15 also shows that the Transport and storage industry recorded a similar pattern of reasons for not applying as the Australian workforce as a whole.

**Figure 15 Work-related injuries to employees: Percentage of injuries by main reason for not applying for workers' compensation**



\* The WRIS data for Inconvenient/too much paperwork and Not covered/thought not eligible had RSEs of between 25% and 50%. and should be used with caution.

\*\* Other reason includes Negative impact on current or future employment and Did not know.

## Conclusion

This report has shown that the Transport and storage industry employs a lot more workers under shift arrangements than the Australian workforce as a whole with shiftworkers recording a much higher rate of injury than other workers in this industry.

Three-quarters of workers in the Transport and storage industry were male who recorded an incidence rate of injury considerably higher than male workers in the full workforce.

Of particular concern is that workers aged 35 to 44 years in this industry have a much greater risk of injury than those in the full Australian workforce, recording an injury rate 75% higher than similar aged workers in the Australian workforce as a whole.

This report has however shown that while the injury rate is considerably higher than the Australian rate, the severity of the injury, as measured by time lost from work, was similar to the Australian profile.

Conclusive results about how well the compensation data represents all types of injuries incurred in this industry can not be made, however, the compensation data does present an accurate picture of the main ways in which injuries occurred and the main types of injuries incurred.

# Explanatory Notes

## Definitions

<b>ABS</b>	Australian Bureau of Statistics
<b>Employees</b>	People who work for a public or private employer and receive remuneration, or people who operate their own incorporated enterprise with or without hiring employees
<b>Frequency rate</b>	The number of injuries per million hours worked
<b>Full time workers</b>	People who worked 35 hours or more a week.
<b>Incidence rate</b>	The number of injuries per 1 000 workers
<b>Mechanism of injury</b>	The mechanism of injury is the action, exposure or event that was the direct cause of the injury, or how the injury was sustained
<b>NDS</b>	National Data Set for Compensation Based Statistics
<b>Type of injury</b>	Refers to the type of work-related injury sustained
<b>Part time workers</b>	People who worked less than 35 hours a week.
<b>Serious injuries</b>	Injuries that resulted in at least five days absence from work
<b>Shiftwork</b>	Where working hours are split into at least two set work periods
<b>WRIS</b>	ABS Work-related injury survey (ABS Cat. No. 6324.0)

## Industry classification

The industry of the worker has been classified in accordance with the Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993 edition (ABS Cat. No.1292.0).

## Mechanism of injury classification

The mechanism of injury classification is based on the *Type of Occurrence Classifications System* (TOOCS) used by Safe Work Australia. Refer to Appendix 1 in ABS Cat. No.6324.0 for a detailed breakdown of each mechanism of work-related injury.

## Type of injury classification

In the WRIS this variable is referred to as 'Work-related injury or illness'. This variable's classification is based on the Nature of injury classification in the *Type of Occurrence Classifications System* (TOOCS) used by Safe Work Australia. Refer to Appendix 1 in ABS Cat. No. 6324.0 for a detailed breakdown of each type of work-related injury.

## Relative Standard Errors (RSEs)

All data presented in this report conform with the ABS guidelines regarding data quality. Unless otherwise noted, all data presented have RSEs below 25%. Data with RSEs above 50% have not been published. Comprehensive information about RSEs can be found in the ABS Work- related injuries publication (ABS Cat. 6324.0)

### Inquires

For further information regarding the contents of this publication contact:

The Data & Analysis Section

**Safe Work Australia**

(02) 6121 9115

