

Workplace Road Safety Issues in Western Australian Local Government Fleets

Western Australian Local Government Association (RoadWise Program)

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Introduction

Workplace road safety in Western Australian (WA) Local Government Fleets as with other fleets in Australia is a major occupational health and safety issue. Road crashes are the leading cause of workplace related death, injury and time of work in Australia resulting in 45% of all workplace related deaths (WorkCover WA 2006). Between 1999/2000 and 2003/04 there was an average of 11 fatalities and 489 lost time claims due to work-related crashes each year (WorkCover WA 2006). Wheatley (1997) states that in Australia, crash costs cut into the budget of an organisation with the average repair costing around \$2000 with average total cost of \$18 500 per year. These costs are understated as they do not include minor vehicle damage, staff replacement, lost productivity or increased insurance premiums as a result increased vehicle related incidents.

There are 144 Local Government in WA including Christmas Island and Cocos (Keeling) Islands with almost 1,350 Elected Members and over 12,000 full time employees (Western Australian Local Government Association 2005). Collectively, WA Local Governments have a substantial fleet in a wide range of environments from inner city Perth to winding coastal roads and unsealed outback roads.

The aim of this report was to quantify the issues facing WA Local Government fleets using insurance data. The insurance data was used to assess the size and value of Local Government fleets, the number and cost of vehicle crash claims and the number and cost of injuries claims.

Data Collection Procedure

This report utilises vehicle claim data obtained from Zurich Financial Services Australia and injury claim data obtained from Local Government Insurance Services (LGIS) Western Australia. The Local Governments have been classified into metropolitan and non metropolitan Local Government areas to maintain privacy. See *Figure 1* for a map describing which Local Governments are classed as metropolitan Local Governments.

Fleet Size and Value

The fleet size and value data was taken from vehicles insured with Zurich in the 2004/2005 financial year. The data represents 138 of the 144 WA Local Governments. The fleet size and value data was copied from Zurich's *Shire Spreadsheet for 06-07 Renewal* spreadsheet and manually sorted into tables in Microsoft Excel.

Vehicle Claim Data

Vehicle claim data was taken from claims made with Zurich between 2000 and 2005. The data represents 142 of the 144 WA Local Governments. The vehicles claim data was copied from Zurich's *Shire report 2000 - April 2006* spreadsheet and manually sorted into tables in Microsoft Excel.

Injury Claim Data

The injury claim data was taken from claims made with LGIS between 1995 and 2005. LGIS are the primary personal injury insurer for all 144 Local Government in WA. The injury claim data was copied from LGIS's *Motor Vehicle Claims* spreadsheet and analysed using the statistics program *SPSS v14*.



Figure 1 Map detailing the Local Governments that are classed as metropolitan

Results

Size and Value of Local Government Fleets

Table 1 The average size and value of metropolitan and non metropolitan Local Governments (2004/05 financial year)

Local Government Area	Average Fleet Size per Local Government	Total Fleet Size	Average Fleet Value per Local Government	Total Value
Metro (n=16)	205	5,524	\$5,492,663	\$148,301,894
Non Metro (n=111)	82	9,052	\$2,802,561	\$311,084,287
State wide	106	14,576	\$3,328,885	\$459,386,181

NB: The above results include all fleets vehicles, items of plant and mobile machinery in the 2004/05 financial year

The size and value of metropolitan Local Government fleets is 5,524 vehicles worth \$148,301,894 averaging 205 vehicles worth \$5,492,663 per metropolitan Local Government.

The size and value of non metropolitan Local Government fleets is 9,052 vehicles worth \$311,084,287 averaging 82 vehicles worth \$2,802,561 per non metropolitan Local Government.

WA Local Government fleets are substantial as a whole with 14,576 vehicles worth \$459,386,181 which makes up 40.6% of Government vehicles and 6.7% of all fleet vehicles in WA.

Vehicle Claim Data

Claims and Cost by Local Government Classification

Table 2 The average number of claims and yearly cost per Local Government and average cost per claims by Local Government area (2000-2005)

<i>Local Government Area</i>	<i>Average Yearly Claims per Local Government</i>	<i>Average Cost per Claim</i>	<i>Average Yearly Cost Per Local Government</i>	<i>Total Cost over Six Years</i>
Metro (n=29)	15	\$1,813	\$27,598	\$4,802,074
Non Metro (n=113)	5	\$2,173	\$10,048	\$6,812,236
State-wide (n=142)	7	\$2,008	\$13,632	\$11,614,310

Each year on average, metropolitan Local Governments made an average of 15 vehicle damage claims costing \$1,813 per claim and a total of \$27,598. The total cost of claims made by metropolitan Local Governments collectively was \$4,802,074 in the six year period.

Each year on average, non metropolitan Local Governments made an average of 5 vehicle damage claims costing \$2,173 per claim and a total of \$10,048. The total cost of claims made by non metropolitan Local Governments collectively was \$6,812,236 in the six year period.

Each year on average, WA Local Governments collectively made an average of seven vehicle damage claims costing \$2,008 per claim and a total of \$13,623. The total cost of claims made by WA Local Governments collectively was \$11,614,310 in the six year period.

Claims and Cost by Vehicle Classification

Table 3 The percentage of claims made for vehicles type and the cost of claims (2000-2005)

<i>Vehicle Type</i>	<i>Percentage of Claims (n=5783)</i>	<i>Average Cost per Claim</i>	<i>Total cost over Six Years</i>
Four Wheel Drives	0.1%	\$8,287	\$24,860
Sedans/Station Wagons >\$60,000	1.2%	\$2,056	\$137,773
Buses & Coaches	1.2%	\$1,539	\$106,199
Light Plant	1.5%	\$1,508	\$134,221
Heavy Plant	2.2%	\$3,431	\$446,068
Vehicles up to 2 Tonnes	4.9%	\$1,724	\$484,402
Utilities & Vehicles <2 Tonnes	11.7%	\$1,542	\$1,039,620
Sedans <\$75,000	24.6%	\$1,684	\$2,394,659
Sedans/Station Wagons <\$60,000	25.6%	\$1,417	\$2,101,757

NB: Percentages will not total 100% as the majority of vehicles over 2 tonnes are excluded from the table

Claims made for light fleet vehicles made up 68.1% of all damage claims including sedans/station wagons under \$60,000 (25.6%), sedans under \$75,000 (24.6%), utilities and vehicles less than two tonnes (11.7%), vehicles up to two tonnes (4.9%), sedans/station wagons over \$60,000 (1.2%) and four wheel drives (0.1%).

The average cost of light vehicle claims in the six year period was \$2,785. Individual average costs per claim were sedans/station wagons under \$60,000 (\$1,417), sedans under \$75,000 (\$1,684), vehicles less than two tonnes (\$1,542), vehicles up to two tonnes (\$1,724), sedans/station wagons over \$60,000 (\$2,056) and four wheel drives (\$8,287).

Light fleet vehicles claims make up 53.2% of all claim costs in the six year period consisting of \$2,101,757 for sedans/station wagons under \$60,000, \$2,394,659 for sedans under \$75,000, \$1,039,620 for vehicles less than two tonnes, \$484,402 for vehicles up to two tonnes, \$137,773 for sedans/station wagons over \$60,000 and \$24,860 for four wheel drives.

Claims and Cost by Cause

Table 4 The percentage of claims by cause and the cost and cost per claim by cause (2000-2005)

Cause	Percentage of Claims (n=5783)	Average Cost per Claim	Total Cost over 6 Years
Pulling Away from Kerb	0.1%	\$2,268	\$18,142
Mechanical Derangement	0.2%	\$2,669	\$29,364
Unsafe Overtaking	0.3%	\$6,270	\$100,316
Storm Perils (Excludes Hail)	0.5%	\$6,021	\$156,544
Overturning and Overturning Whilst Tipping	0.5%	\$10,263	\$277,094
Changing Lanes	1.2%	\$1,571	\$105,251
Lost Control	1.7%	\$12,685	\$1,268,548
Hit T/P	2.0%	\$2,015	\$233,695
Fire	2.3%	\$6,884	\$929,368
Malicious Acts	2.9%	\$1,471	\$242,669
Theft	4.0%	\$2,852	\$661,685
Failed to Give Way (Including Unsafe U-Turn)	5.0%	\$3,412	\$982,629
Windscreen	6.4%	\$314	\$116,192
Other Unspecified Cause	6.6%	\$1,797	\$680,880
Hit in Rear	6.8%	\$2,666	\$1,050,496
Damaged Whilst Parked	8.6%	\$769	\$383,907
Hit Animal	9.3%	\$1,863	\$1,000,244
Reversing	15.8%	\$1,270	\$1,158,400
Hit Stationary Object	25.8%	\$1,485	\$2,218,886

The causes resulting in the highest percentage of claims were hitting a stationary object (25.8%), reversing (15.8%) and hitting an animal (9.3) whilst the causes resulting in the lowest percentage of claims were pulling away from a kerb (0.1%), mechanical derangement (0.2%) and unsafe overtaking (0.3%).

The causes resulting in the highest average cost per claim were losing control (\$12,685), overturning whilst tipping (\$10,263) and fire (\$6,884) whilst the causes resulting in the lowest average cost per claim were windscreen damage (\$314), damage whilst parked (\$769) and reversing (\$1270).

The causes resulting in the highest costs in the six year period were hitting a stationary object (\$2,218,886), losing control (\$1,268,548), reversing (\$1,158,400), hit in the rear (\$1,050,496), hitting animals (\$1,000,244) and failing to give way/unsafe U-Turns (\$982,629).

Claims by Time of Day

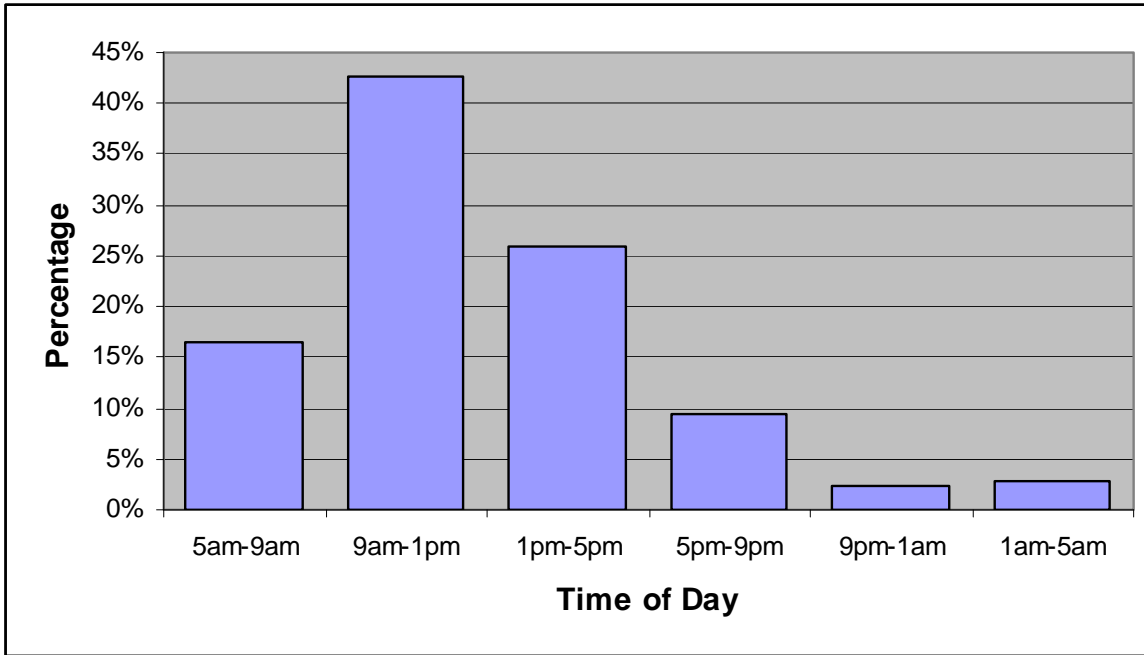


Figure 2 The percentage of claims by time of day

The majority of incidents (68.7%) in the six year period occurred during the hours of 9am to 5pm. 16.6% of claims were made for incidents that occurred during 5am and 9am and 9.5% of claims were made for incidents that occurred between 5pm and 9pm with 5.3% of claims made between 9pm and 5am.

Claims and Cost by Month

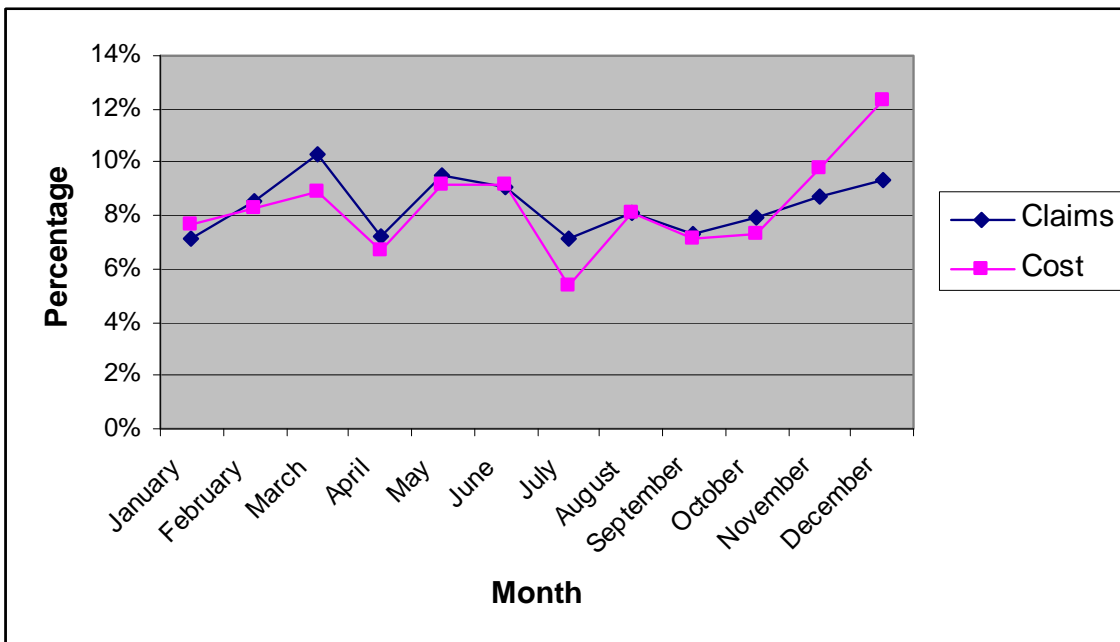


Figure 3 The number of claims and total cost of claims by month

The highest percentage of claims in the six year period occurred during March (10.3%), May (9.5%) and December (9.3%) whilst the months with the lowest percentage of claims were January (7.1%),

July (7.1%) and April (7.2%). The standard deviation for the percentage of claims by the month was 1.06% which indicates that there is an even spread of claims made throughout the year.

The months with highest percentage of costs in the six year period were December (12.3%), November (9.8%) and June (9.2%) whilst the months with the lowest percentage of costs were July (5.4%), April (6.7%) and September (7.1%). The standard deviation for the percentage of total cost by the month was 1.77% which also indicates an even spread of claims made throughout the year.

Claims and Cost by Year

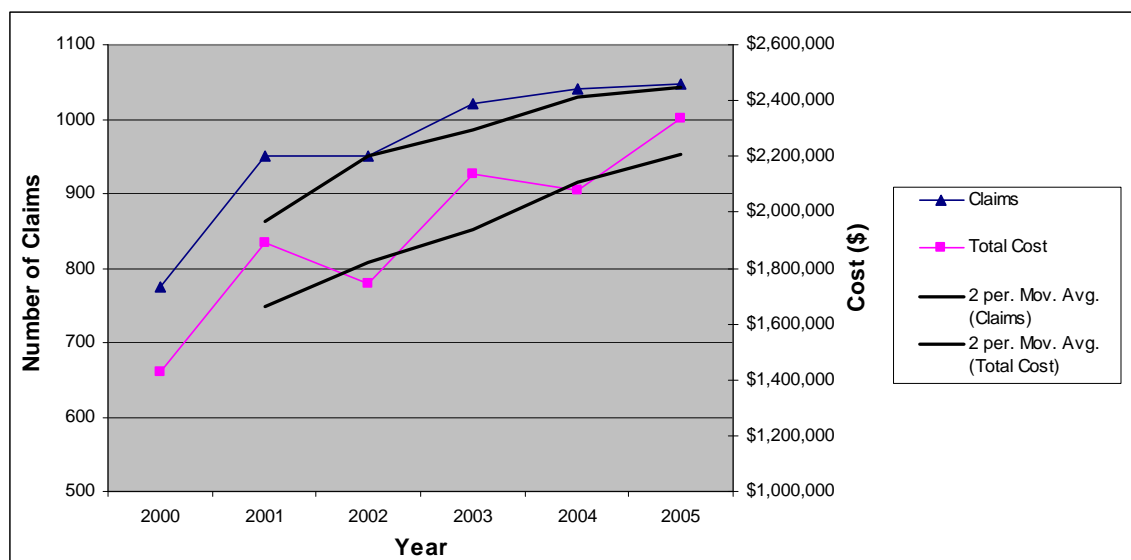


Figure 4 The number of claims and total cost of claims per year

The total number of claims per year increased approximately 26% from 774 claims in 2000 to 1047 claims in 2005. A plateau in claim numbers was observed between 2001 and 2002 with a moving average showing a continual increase in the six year period.

The total cost of claims per year increased approximately 39% from \$1,429,308 in 2000 to \$2,336,184 in 2005. A decrease in costs from the previous year was observed in 2002 and 2004 with a linear moving average observed in the six year period.

Injury Data

Claims, Cost and Lost Time by Year

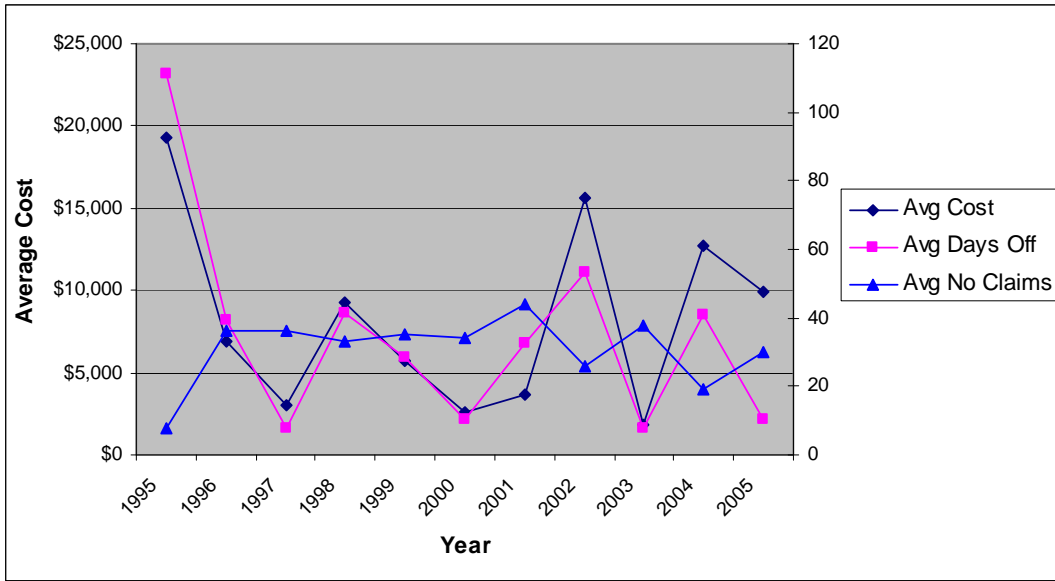


Figure 5 The average cost and days off per year compared to the number of claims per year

A similar pattern is observed between the average yearly cost and the average number of days off per year due injury claims in the 11 year period. There is no significant pattern observed between the average number of injury claims per year and the average yearly cost and average number of days off per year.

Claims, Cost and Lost Time by Local Government Area

Table 5 The percentage of claims, average days lost and average cost per claim by Local Government area (1995-2005)

Local Government Area	Percentage of Claims	Average Days Lost	Average Cost per Claim	Total Cost over 11 Years
Metro (n=18)	57%	30	\$6,686	\$1,303,795
Non Metro (115)	43%	25	\$6,770	\$981,578

Metropolitan Local Governments made 57% of all injury claims from 1995 and 2005 averaging 30 lost days and \$6,686 per claim. The total cost of injury claims made by metropolitan Local Governments collectively was \$1,303,795 in the 11 year period.

Non metropolitan Local Governments made 43% of all injury claims from 1995 and 2005 averaging 25 lost days and \$6,770 per claim. The total cost of injury claims made by non metropolitan Local Governments collectively was \$981,578 in the 11 year period.

Claims, Cost and Lost Time by Injury

Table 6 The number of claims, average days lost and cost incurred for the type of injury caused by a vehicle crash related incident (1995-2005)

Injury	Percentage of Claims (n=339)	Average Days Lost	Average Cost per Claim	Total Cost over 11 Years
Shock	1.5%	<1	\$458	\$2,290
Laceration/Abrasion	4.4%	4	\$992	\$14,880
Concussion	3.5%	6	\$1,110	\$13,320
Multiple injury (minor)	4.1%	19	\$2,299	\$32,186
Soft tissue injury /contusion	70.2%	24	\$4,994	\$1,188,572
Other	5.9%	23	\$5,928	\$118,560
Multiple injury (major)	0.9%	25	\$8,799	\$26,397
Back/neck injury	5.9%	56	\$16,996	\$339,920
Fracture	3.2%	133	\$41,452	\$455,972
Fatality	0.3%	220	\$93,314	\$93,314

The most common injury in the 11 year period was soft tissue injuries/contusions which make up 70.2% of all injury claims. There was with one fatality (0.3%) in this period.

The injuries that resulted in the highest working days lost and the average cost per claim were a fatality (220 days/\$93,314), fractures (133 days/\$41,452) and back/neck injuries (56 days/\$16,996). The injuries that resulted in the least working days lost and the lowest average cost per claim were shock (<1 day/\$458), lacerations/abrasions (4 days/\$992) and concussion (6 days/\$1,110).

The injuries that resulted in the highest total cost were soft tissue injuries/contusions (\$1,188,572), fractures (\$455,972) and back/neck injuries (\$339,920) whilst the injuries that resulted in the lowest total costs were shock (\$2,290), concussion (\$13,320) and lacerations/abrasions (\$14,880).

Claims, Cost and Lost Time by Cause

Table 7 The numbers of claims, average days lost, average claim cost and total cost incurred by cause of injury (1995-2005)

Cause	Number of Claims	Average Days Lost	Average Cost per Claim	Total Cost over 11 Years
Lost control	5.3%	1	\$569	\$10,242
Reversing	3.2%	3	\$822	\$9,042
Unspecified	28.0%	16	\$3,519	\$334,305
Collision	40.1%	25	\$4,965	\$675,240
Rollover	9.1%	26	\$6,824	\$211,544
Other	4.7%	75	\$13,109	\$209,744
Hit Object	7.7%	55	\$18,922	\$491,972
Mechanical Failure	1.8%	196	\$57,219	\$343,314

The most common causes of injury in the 11 year period were a collision between two vehicles (40.1%) and unspecified causes (28%).

The causes of injury that resulted in the most working days lost and the highest average cost per claim were mechanical failures (196 days/\$57,219), hitting an object (55 days/\$18,922) and other causes (75 days/\$13,109). The causes of injury that resulted in the least working days lost and the lowest average cost per claim were losing control (1 day/\$569), reversing (3 days/\$822) and unspecified causes (16 days/\$3,519).

Claims, Cost and Lost Time by Fault

Table 8 The driver at fault with cost and days lost (1995-2005)

At Fault	Claims (n=339)	Average Days Lost	Average Cost per Claim	Total Cost over 11 Years
Driver	33.6%	23	\$7,262	\$827,868
Third Party	30.4%	28	\$4,276	\$440,428
Unknown	36.0%	33	\$8,337	\$1,017,114

Local Government drivers were at fault in 33.6% of injury claims resulting in an average of 23 days lost and \$7,262 per claim in the 11 year period. The total cost of injury claims where Local Government drivers were at fault was \$827,868.

A third party (someone other than the driver of a Local Government car) was at fault in 30.4% of injury claims resulting in an average of 28 days lost and \$4,276 per claim in the 11 year period. The total cost of injury claims where a third party was at fault was \$440,428.

It was not known who was at fault in 36% of injury claims resulting in an average of 33 days lost and \$8,337 per claim in the 11 year period. The total cost of injury claims where it was not known who was at fault was \$1,017,114.

Discussion

Vehicle Damage Claims

WA Local Government fleets are substantial with 14,576 vehicles worth \$459,386,181 in the 138 Local Governments insured with Zurich in 2004/05. Metropolitan Local Government fleets are substantially larger than non metropolitan Local Government fleets. The number of vehicle damage claims in metropolitan Local Government fleets was much higher than in non metropolitan Local Government fleets but the average vehicle damage claim cost was higher in non metropolitan Local Government fleets.

Just over two thirds of all vehicle damage claims were made for light fleet vehicles and nearly two thirds of these were sedans and utilities. Light vehicle damage claims costs were higher than the total vehicle damage cost average.

Hitting a stationary object made up a quarter of the total cost of all claims. Two areas were losing control which made up of 1.7% of claims but 10% of the total cost and being hit in the rear which made up of 6.8% of claims but 9% of the total cost.

The majority of vehicle damage claims occurred during the traditional work hours of 9am to 5pm but it is interesting to note that 5.3% of claims occurred between 9pm and 5am.

There was little difference throughout the year for both vehicle damage claims made and total cost of claims with a slight increase observed in December.

Although the total number of vehicle damage claims fluctuated from year to year there was an overall increase over the six year period with increases in total cost also.

Injury Claims

The number of injury claims has no bearing on either the number of days off or the cost of claims. Therefore it can be assumed that the number of days off and the cost of claims would most likely depend on the severity of the injury rather than the number of claims.

In a similar fashion to the vehicle damage claims, metropolitan Local Government fleets made a much higher proportion of injury claims than non metropolitan Local Governments fleets. Injuries in metropolitan Local Government fleets resulted in more time off work but marginally less total costs than non metropolitan Local Government fleets.

Soft tissue injuries/contusions made up almost three quarters of all injury claims. Two areas of concern were fractures which made up of 3.2% of claims but 20% of the total cost and back/neck injuries which made up 5.9% of claims and 14.9% of the total cost. There was one fatality in Local Government fleets between 1995 and 2005.

Collision between two vehicles was the cause of nearly half of all injury claims. Two areas of concern were hitting an object which made up 7.7% of claims but 21.5% of the total cost and mechanical failure which made up 1.8% of claims and 15% of the total cost

There was little difference between the number of injuries where Local Government drivers were at fault and a third party was at fault. Injury claims where Local Government drivers were at fault resulted in less days off but considerably higher total costs.

Limitations of the Report

The fleet size and value data contained gaps in the data so fleet size data had to be taken from 2004/5 and the value of the fleet was taken from 2005/6.

The vehicle claim data is an under-representation of the total number and cost of incidents, as only claims paid out were recorded which excluded smaller costs incurred.

The injury data is not coded therefore codes for injury type, cause and fault had to be developed to the best knowledge of the author. Due to a lack of information in some instances, the data was unable to be classified and was classed as unspecified. These two issues may have led to misclassification of data as well an under-representation of some issues.

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