

Characteristics of the grey fleet in British Columbia

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Abstract

Background: Data from around the world would suggest that attention to safety during work-related driving should be a priority as traffic accidents are the leading cause of work-related injury, death and absence from work in many countries.

Purpose: This study examines the characteristics of the grey fleet (those who drive personal vehicles for the purposes of work), and the road safety programs that are presently in place in British Columbia.

Method: A 'Grey Fleet Employer Survey' was distributed via email to a random sample of 15% of all employers in British Columbia. Of 5023 emails delivered successfully 531 respondents were captured in the data (10.6% response), of which 104 declined participation leaving 427 who completed surveys (8.4% response rate).

Results: Of those companies responding 64.4% of them reported having a grey fleet with 36.6% of employees from small companies (4-19 employees), 21.0% of the employees from medium (20-99 employees) and 12.2% of employees from large (100+ employees) companies driving personal vehicles for work-related purposes. Of those employers reporting a grey fleet 75.2% checked to make sure employees who drove had a valid drivers' licence, typically at the time of hire (70.5), with 39% checking on an annual basis. Few companies (17.8%) required employees to inspect their own vehicles before starting each trip. The majority of employers (74.6%) believed it was the employee's responsibility to inspect their own private vehicles, and this was true across small (73.6%), medium (73.6%) and large (77.8%) employers.

Conclusion: Employers who use grey fleets are not certain of their legal requirements under Worker's Compensation Act (duty of care), and education and training is required concerning the employer and employee responsibilities concerning driving safety.

Introduction

Data from around the world would suggest that attention to safety during driving for work-related purposes should be a priority as traffic accidents are the leading cause of work-related injury, death and absence from work in many countries (Newman & Watson 2011a). The World Health Organisation (2008) estimates that work-related road crashes account for 1.3 million deaths annually, with an expectation that by 2030 they will become the third leading cause of burden of disease. In Australia, work-related traffic accidents are the leading cause of occupational fatalities (Haworth 2002) and occupational injury (Driscoll et al. 2001) accounting for nearly 25% of all occupational fatalities each year (Harrison, Mandryk & Frommer 1993). In the United States 7 out of 10 fatally injured workers were killed in traffic accidents, accounting for the highest number of fatal work-related injuries (Bureau of Labor Statistics 2004).

Several authors suggest that work-related drivers have above-average crash frequencies (Lynn & Lockwood 1998).

Haworth, Tingvall & Kowadlo (2000) estimated drivers of company vehicles experienced an increase in crashes of approximately 50% over private vehicle drivers. It was estimated that 20-30% of all fleet vehicles are involved in a crash each year, and beyond the burden of fatalities, there is a significant cost associated with serious and prolonged injury and/or vehicle damage (Blincoe et al. 2002). Even less is known of the impact of less severe crashes that do not result in hospitalisation.

In British Columbia, Canada, (population 4.4 million) motor vehicle incidents (MVI) are also the leading cause of traumatic workplace fatalities, accounting for 35% of all work-related traumatic fatalities. On average each year, 22 workers are fatally injured and another 1260 are seriously injured and require time away from work for recovery. In 2012, the average cost and days lost per MVI claim were Cdn\$42 000 and 91 days respectively, significantly higher than the provincial average of Cdn\$19 500 and 48 days (Road Safety at Work 2012).

In 2012 Ipsos reported 24% of drivers in British Columbia (or 642 000 drivers) reported driving for work purposes outside of commuting to and from work (70% driving personal vehicles). Men (31%) were more likely to drive for work purposes than women (17%). It is estimated that as many as 33% of the drivers in the US and 50% of the drivers in the UK drive for work-related purposes (Stucky, LaMontagne & Sim 2007). Yet, while work-related driving has been recognised as a major occupational health and safety concern in recent years, outside of data from traditional company owned fleet vehicles little is known about those who use their personal vehicles for work-related purposes – or the so-called 'grey fleet'. It is speculated that the size of the grey fleet may be several times that of traditional fleets. Despite this, little is known about the size of the grey fleet, the primary purposes for travel, the average distances driven, nor management strategies for the grey fleet. It is the purpose of this project to examine the characteristics of the grey fleet, and the road safety programs that are presently in place in British Columbia.

Materials and Methods

A 'Grey Fleet Employer Survey' was developed to collect descriptive data and distributed to a representative random sample consisting of 15% of all employers who were registered with WorkSafeBC as of January 1st, 2014, and had 4 or more employees. In 2012 there were 206 505 employers registered in British Columbia with 2 092 544 full time employees (estimates of person year quantities are based on gross payrolls submitted by employers and on matching wage- rate data). However, the majority were small companies with less than four full time employees, with approximately 53 650 employers with 4 or more full time employees. The 15% random sample drawn comprised of 8045 employers, stratified across small (4–19 employees), medium (20–99 employees), and large (100 or more employees) employers. All contact with the employers and call for participation was delivered through email. Those wishing to participate were directed to a link to an online survey consisting of 17 branched, multi- segment questions comprising a combination of closed and open ended questions. Questions asked for specific information concerning the company including number of employees, number driving personal vehicles for work-related purposes, etc., questions with drop-down menu choices, and open ended questions asking for additional comments. The questionnaire was open for a two week period during which time two reminders were sent.

This study was approved through the institution's Research Ethics Board. Online consent was obtained from all participants prior to their completion of the survey that was administered through Key Survey with responses housed on one of the institution's secure servers. Data were extracted from Key Survey in the form of summary reports, while raw data were exported to Excel for further analysis.

Results

Of the 8045 email addresses supplied for contact, 2953 were undeliverable, and 69 had automated responses (e.g. change of address, no longer employees) leaving a potential sample of 5023 potential responses. Of those delivered without issues, 531 respondents were captured in the data (10.6 % response rate), of which 104 declined participation leaving a total of 427 completed surveys, or a completion rate of 8.4% (see Table 1). The representativeness of the sample is demonstrated in Table 2.

Results indicate that only 838 of the delivered emails were opened, and once corrected for the emails removed to account for those not employed or changes of address, there was a potential population of 792 participants who viewed the request for participation. Participation of those who viewed the request to participate was equal to 53.9% (427 of 792).

Employer Profile

The distribution of these respondents were across the industry sectors: primary resources (8.0%), manufacturing (6.1%), construction (10.6%), transportation and warehousing (2.6%), trade (10.5%), service (45.2%) and other (16.9%). Of these respondents 64.6% reported having employees drive their personal vehicles for work purposes – having a so called grey fleet. Using the adjusted Wahl method, at the 95% confidence interval the margin of error in this sample is estimated to be $\pm 4.52\%$ (although the margin of error would be larger for sub-sample groups).

Of those reporting having a grey fleet, 36.6% of employees from small employers, and 21.0% and 12.2% of employees from medium and large companies respectively were estimated to drive their personal vehicles for work purposes (see Table 3). More traditional fleets using company

Table 1
Sample sizes and response rates in each category of company size

	Email addresses	Corrected for non-delivery	Consents provided	Response rate
Large (100+)	325	206	26	12.6%
Medium (20–99)	1657	1048	166	15.8%
Small (4–19)	6063	3838	235	6.1%
Total	8045	5092	427	8.4%

Table 2
British Columbia Employer Profile

	Number of employers	Proportion of total employers	Number of employees	Proportion of total employees	Current study proportions
Primary resources	9 734	4.7%	66 561	3.3%	8.0%
Manufacturing	11 059	5.4%	196 692	9.7%	6.1%
Construction	39 205	19.0%	160 400	7.9%	10.6%
Transportation & Warehousing	18 767	9.0%	90 758	4.5%	2.6%
Trade	19 174	9.3%	298 637	14.7%	10.5%
Service	107 785	52.2%	1 225 818	60.5%	45.2%
Other	781	0.4%	53 678	2.6%	16.9%

Note:

Number of employees – The estimated number of persons working all year on either a part-time or full-time basis. Estimates of person year quantities are based on gross payrolls submitted by employers and on matching wage-rate data.

owned or leased vehicles were reported by 48.0% of the respondents, more prevalent in medium (63.5%) than small (40.2%) or large (48.3%) employers.

Employees from smaller employers were more likely to use their vehicles daily (27.8%) as compared to employees from medium (17.1%) and large (4.1%) employers. In all cases (except for 'other') the employees were more than twice as likely to be traveling within a city or town for under 25 kilometres. Of those that drive their private vehicle for work, the typical purposes for travel differ amongst small and medium (deliver and/or pick up goods) and large (meetings) employers.

Personal Vehicle Use (Grey Fleet)

Of those employers reporting a grey fleet (n=276), 75.2% checked to make sure their employees who drove had a valid driver's licences. The typical time for licence checks was at the time of hire (70.5%), while 39.0% reported checking for valid driver's licences annually (see Table 4). Of those who did not perform checks for valid driver's licences, 27.9% stated it was part of the job description and 26.5% did not think it was important.

When asked if their company checked to make sure the personal vehicles of employees who drive for the purpose of work were in good working order

31.5% said they did, while it was more prevalent in small employers (35.5%) and less prevalent in large employers (23.1%) (see Table 5). The majority of employers (66.0%) not checking personal vehicles for proper maintenance and driving order state that it is the employee's responsibility.

Few companies (17.8%) required employees to inspect their own vehicles before starting each trip. The majority of companies (74.6%) believed it was the employee's responsibility to inspect their own private vehicles, and this was true across small (73.6%) medium (73.6%) and large (77.8%) employers.

Larger employers were four times more likely (19.2%) to offer any form of driver training than the medium (4.6%) or small (5.3%) employers. Of those offering driver training, 73.7% offered general defensive driver training, while 36.8% offered winter driving training. The primary reason for not offering driver training was that the employers did not feel it was important (47.9%) and less likely due to cost (10.7%) or time requirements (9.1%).

Company Vehicle Use

Of those employers reporting a traditional fleet, 90.7% checked to make sure their employees who drove had a valid driver's licence (Table 6). The

Table 3
Grey Fleet Size by Stratified Employer Size

	Employees reported	Number who participate in grey fleet	Proportion who participate in grey fleet
Large (100+)	13 078	1 597	12.2%
Medium (20–99)	2 503	525	21.0%
Small (4–19)	1 371	501	36.6%
Overall	16 952	2 623	15.5%

Table 4
Checking for Valid Driver’s Licence for Those Driving Private Vehicles

	Check valid driver’s licence	Time of licence check		
		At hire	Annually	Other
Large (100+)	61.5%	87.5%	50.0%	6.2%
Medium (20–99)	72.3%	87.9%	25.5%	17.0%
Small (4–19)	75.1%	64.6%	42.5%	16.5%
Overall	72.5%	70.5%	39.0%	15.5%

typical time for licence checks was at the time of hire (68.4%), while 53.8% reported checking for valid driver’s licences annually. Of those who did not perform checks for valid driver’s licences, 45.5% stated it was part of the job description and 27.3% did not think it was important.

When asked if their company checked to make sure the company vehicles were in good working order 95.3% said they did, while it was more prevalent in small employers (100.0%) and less prevalent in large employers (92.3%) (Table 7). The majority of employers (66.7%) not checking company vehicles for proper maintenance and driving order state that it is the employee’s responsibility.

Companies with company owned or leased vehicles were more likely (58.9%) to require employees to inspect the vehicle before starting each trip (Small = 58.0%; Medium = 56.1 %; Large = 69.2%).

Larger employers were two and a half times more likely (53.8%) to offer any form of driver training than the medium (14.6%) or small (18.8%) employers. Of those offering driver training, 67.9% offered general defensive driving training, while 35.7% offered winter driving training. The primary reason for not offering driver training was that the employers did not feel it was important (45.5%) and less likely due to cost (14.1%) or time requirements (8.1%).

Table 5
Vehicle Inspections of Private Vehicles for Safe Driving Condition

	Perform a check	Time of vehicle inspection		
		At hire	Monthly	Annually
Large (100+)	23.1%	16.7%	16.7%	16.7%
Medium (20–99)	24.6%	25.0%	25.0%	0.0%
Small (4–19)	35.5%	26.7%	21.7%	13.3%
Overall	31.5%	25.3%	21.8%	10.3%

Table 6
Checking for Valid Driver’s Licence for Those Driving Company Vehicles

	Check valid driver’s licence	Time of licence check		
		At hire	Annually	Other
Large (100+)	76.9%	70.0%	80.0%	10.0%
Medium (20–99)	87.8%	72.2%	41.7%	13.9%
Small (4–19)	95.7%	68.2%	56.1%	16.7%
Overall	90.7%	68.4%	53.8%	14.5%

Table 7
Vehicle Inspections of Company Vehicles for Safe Driving Condition

	Perform a check	Daily	Time of vehicle inspection	
			Monthly	Annually
Large (100+)	62.3%	50.0%	33.3%	16.7%
Medium (20–99)	92.7%	39.5%	21.1%	2.6%
Small (4–19)	100.0%	42.6%	23.5%	4.4%
Overall	95.3%	41.8%	23.0%	4.9%

Traditional and Grey Fleet Comparison

Driver’s Licence: Those employers with owned and/or leased vehicles were more apt to check if the drivers had a valid driver’s licence as compared to those with grey fleets. However, those using grey fleets were more likely to check for a valid driver’s licence at time of hire - a practice most often associated with hiring criteria.

Vehicle Inspections: Those employers with owned and/or leased vehicles were 3 times more likely to inspect the vehicles for appropriate driving condition as compared to those with grey fleets across all sizes of employers. There are no set regulations around pre-trip safety inspections of vehicles used for personal use, although there are strict inspections regulations for commercial vehicles and personal vehicles imported into the country. Those inspections include looking at vehicle documentation, driver controls, body integrity, undercarriage, brakes, engine compartment and lighting and electrical.

Discussion

Present statistics from countries around the world would suggest that efforts to enhance driver safety and reduce MVIs ought to be a central goal embedded within the health and safety structures of organisations (Wills, Watson & Briggs 2009; World Health Organisation 2008), yet typical fleet management has focused on asset management rather than health and safety (Haworth et al. 2000). In most westernised countries, employers have a legal responsibility to ensure safe work systems are in place to protect the health and safety of their employees. Likewise, employees are required to take responsibility for ‘reasonable care’ of their personal health and safety and cooperate with their employer to make sure they comply with health and safety regulations (Griffith 2008). There is a shared responsibility between employers and employees to meet the legislated requirements for health and safety embedded in law. Newman, Griffin and Mason (2008) demonstrated how integrated the shared responsibilities are and how they interact, finding that drivers who perceived their supervisor and fleet manager to value safety were more motivated to exhibit safe driving behaviours. Likewise, Wills et al. (2009) found that the safety climate (organisational commitment with strong management support) within an organisation was the strongest predictor of driving behaviour and efforts towards facilitating a culture of safety is important.

The present research was undertaken to examine the number of employers who require employees to drive for work purposes, whether a private or company vehicle is used for work-related travel, and how employers managed these fleets and executed their duty of care.

Driving for Work-Related Purposes

In the present study 64.6% of all surveyed employers reported having employees drive their personal vehicles for work purposes, with employees of smaller employers being twice as likely to be required to drive their personal vehicles as compared to employees of large employers. More traditional fleets were reported by 47.8% of the employers, with employees using company owned or leased vehicles, and were most prevalent in medium and large sized companies. This data suggests there is a large group of individuals who drive for work purposes in British Columbia with the grey fleet in companies with 4 or more employees (24% of the total employers in BC) being estimated to be 288 275 people (sum of percentage of employees driving personal vehicles for work related purposes multiplied by total employee numbers in each employer size category). Assuming 65% of the companies which have 4 or less employees had a grey fleet and two employees, and 34.6% of them were required to drive their personal vehicle for the purpose of work, a conservative estimate of the grey fleet remaining would be 75 000 for a total grey fleet size of 363 275 drivers, or 14% of those with B.C. drivers licences between the ages of 16 and 65 years of age. The Ipsos (2012) report would suggest that the Grey Fleet is approximately 449 400 strong in British Columbia, or 17% of the B.C. licensed drivers between the ages of 16 and 65 years of age (ICBC 2013). Their estimate of 17% of all drivers driving their personal vehicles for work-related purposes is close to that found in the present study (15.5% of employees in companies with 4 or more employees).

Work-related crashes were more likely to occur in urban areas (Mitchell, Bambach & Friswell 2014), and less likely on highways (Stuckey et al. 2007). Those with increased driving volumes are less likely to be in an accident than those driving less time and distance as they are most frequently driving on divided highways with no intersections and pedestrians

(Stuckey et al. 2007). In the present study 33.6% of the employees in companies reporting a grey fleet were required to drive, 21.8% of whom are reported to drive daily. Of those driving for work-related purposes the driving occurred primarily in urban environments (84%), on a highway (64%) and under 25 kilometres (81%). There was little difference across small, medium and large companies. The population described in the present results would suggest that the shorter distances in urban areas would place these drivers at higher risk of a MVI as they would be driving in more congested areas (Stuckey et al. 2007). ICBC (2013) supports this position as 71% of all crashes and 70% of all injuries occurred in the lower mainland in an urban setting.

Duty of Care

As part of a company's duty of care they should ask basic questions of those driving for work-related purposes: do they have a valid driver's licence, is their vehicle insured for work-related driving, and are the vehicles being driven in a good state of repair? Interestingly, in the present study the duty of care differed between grey fleet and traditional fleet management, although the duty of care requirements by law are the same for each group. This difference was most pronounced in vehicle safety inspection and less of a difference in checking for a valid driver's licence. At the time of hire 71% of employers check for a valid driver's licence, similar to the findings of Avral Fleet Protection of 66% in the UK (Griffith 2008). However, employers are far less likely to check for valid driver's licences after hire, with only 39% performing annual checks. This is quite different from traditional fleet management practices where 91% of employers checked for a valid driver's licence upon hire, and 54% checked annually.

Vehicle inspections are part of normal fleet management practice, with 95% of those employers reporting required vehicle inspections of fleet vehicles. Inspection of commercial fleet vehicles fall under provincial legislation. Commercial vehicle inspections in traditional company owned fleet vehicles are to include inspection of vehicle documentation, driver controls, body integrity, undercarriage, brakes, engine compartment and lighting and electrical. Companies with traditional fleet were more likely (58.9%) to require employees to inspect the vehicle before starting each trip. On the contrary, only 32% of employers using a grey fleet require vehicle inspection at any time, and these range significantly from at the time of hire to 2-3 times per year. Only 18% of those with a grey fleet expected employees to inspect their vehicles before each trip. There are no regulations concerning pre-trip inspections, with policies and practice dictated by each individual company. However, it is evident that normal fleet practices are not extended to privately owned vehicles used for work purposes, and that employers see this as the employee's responsibility. Keall and Newstead (2013) suggest that annual vehicle roadworthiness inspections may increase crash savings by 4% with inspections of vehicles over the age of five years while inspecting vehicles on a six month cycle would cost more than the cost benefit.

Newman and Watson (2011b) concluded that organisations need to do more to formalise the roles and responsibilities of those who drive for work-related purposes, and better integrate driver safety into the health and safety practices. While employers operating light vehicle fleets have a legal duty of care to provide safe and healthy workplaces, the enforcement of such duty is often lacking (Murray et al. 2003). Further, few employers have policies and procedures in place that address driver safety and/or driver behaviour that would formalise safe driving as a priority occupational health and safety concern (Newman & Watson 2011b).

Driver training broadly defined (although normally being in the form of defensive or winter driving) was offered by 6.9% of the employers using a grey fleet, and nearly four times more likely in larger companies than small. Employers with traditional fleets were more likely to offer driver training (21.7%). Regardless of the type of fleet, general or defensive driver training was the most frequent form of training. Identification of at-risk drivers (e.g. those with multiple speeding infractions or who use hand held mobile devices) and driver training are important aspects of a robust driver safety program.

Thematic Analysis of Comments

A number of themes involving employers' duty to care emerged from the participants' subjective comments. Many employers felt that they did not have a responsibility to check employees' licences and vehicles – that, in fact, this was the employees' responsibility. A second theme involved employers' not knowing, or even considering that they might have a duty to check. Others cited a minimal requirement for on-the-job driving as rationale for not participating in safety and vehicle checks. Other employers noted that they trusted their employees and assumed that they would know if there were any problems. Finally, a number of participants noted that their participation in the survey had already had an impact by raising awareness of driver safety issues and employers' responsibilities in this area.

Employees' responsibility: Several participants noted that they did not realise that they had a duty to check on employee's driver's licence status and the conditions of their vehicles. One participant said that 'It is the responsibility of the employee. They have a car with insurance so they must have a driver's licence.' Several commented that they made the assumptions that if the employee had a car, then they would have a valid driver's licence and insurance, and be checking the vehicles. The concept that safety, licensure, and maintenance were the employees' responsibility and not the employers' was evident in comments from several questions in the survey: 'It is explained to them at hire; it is their responsibility to

maintain vehicles.' Others went further, stating that 'they [employees] are already licensed by government' and 'responsibility...should [not] fall under WCB.' Another claimed that the responsibility to ensure licensing requirements was with ICBC (Insurance Council of British Columbia).

Never occurred to us: A number of participant comments included variations on the idea that employers were not aware of the need to check for licences and vehicle condition, nor to provide safety and driver training. The idea 'never even crossed our minds,' said one participant, while another commented that 'the topic was never suggested or discussed' with employees.

Minimal driving requirements: Employers often cited minimal driving requirements as rationale for not engaging in vehicle safety checks. One participant noted that job-related driving was 'very minimal driving for work and only management staff,' while another explained that 'only [a] small % of employees drive, very short distances, and quite infrequently.'

Unaware of any problems: Several participants cited their existing safety record and the lack of accidents as rationale for not providing safety programs or driver training. 'Our team is already safe and have had no accidents.' An interesting series of responses from small businesses were related to the assumption that problems with driving records or vehicle safety would be known by employers as employees were family members or that the staff were well known to each other. 'She's my daughter. We know she has a driver's licence.' Another noted that 'we don't have an issue, we are very familiar with them and their driving habits,' while another claimed 'we would not send anyone out if we felt it unsafe.'

Impact of the survey: As noted above, several participants had not considered their role or responsibilities in ensuring employee and vehicle safety. A number of participants stated that participation in the survey had already changed their approach. '[I] appreciate being asked to participate in this survey because I think these things are important! and now at my organisation, [we] will look at procedures and policies to address (these issues)'. Others also expressed both interest and appreciation for raising awareness on the topic. 'It was a good reminder to me, to make sure employees are doing their vehicle checks on their own vehicles.' 'I have to say that just by taking this survey I realise that we need to do a better job in this area.' 'Although this is a research project, it has opened our eyes to considered things that weren't thought about before. It posed questions to us that we had not posed to ourselves and so this was a good learning experience for us'.

Potential Grey Fleet Impact

Despite the lack of attention to work-related driving, Mitchell et al. (2014) found higher motivation to conform to safe driving behaviours in those driving for work-related purposes (with less alcohol, speed and fatigue involved in work-related crashes). Yet there are mixed views on severity of injury in crashes as Charbotel et al. (2001) found work-related MVIs resulted in less severe injuries, while Mitchell et al (2014) found work and non-work-related crashes resulted in similar injuries.

It is estimated that 20-30% of fleet vehicles are involved in a MVI each year that required a hospital visit (Haworth et al. 2000), while in addition to these serious or prolonged injuries, there are many more that are under-reported causing minor injury and/or vehicle damage (Blincoe et al. 2002). In British Columbia, ICBC (2013) data suggests that casualties occur in 19.6% of all reported incidents (identified when a payment is made for injury or fatality) while WorkSafeBC reports 53% of all claims to be for health costs only and 47% to include wage loss claims. If this was also true of the grey fleet one could project the total costs associated with grey fleet drivers in the absence of definitive data from one source. Movement to a National Injury Insurance Scheme in Australia should provide much better data describing the injuries and supports received by individuals injured at work, while being able to identify those who were driving for work-related purposes as a unique sub-set of individual claims.

Conclusion

Multiple data sets and surveys would suggest that the size of the grey fleet in British Columbia is substantial, and that many incidents are not-reported or not claimed as work-related. Further, employers who use grey fleet are not certain of their legal requirements under Worker's Compensation Act (duty of care), and education and training is required concerning the employer and employee responsibilities concerning driving safety. There may well be lessons to be learned from this data within the Australian and New Zealand contexts.

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