Distracted Driving by Law Enforcement Officers Resulting in Auto Liability Claims

Identification of the Issues and Recommendations for Implementation of a Loss Control Program

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Executive Summary

Distracted driving is a growing phenomenon and has been addressed at the national and state level with a series of laws aimed at preventing accidents due to driver inattention. The purpose of this study was to better understand the causes of distracted driving and to suggest strategies to help mitigate the risks. Recommendations are tailored to the law enforcement profession and strategies are based on both the research findings and the experience of the researchers as law enforcement professionals.

This study, conducted at the request of the League of Minnesota Cities Insurance Trust (LMCIT), was completed by Public Safety Administration graduate students at St. Mary's University of Minnesota. This report provides an analysis and summary of research conducted on police-involved vehicle crashes in the state of Minnesota from 2006 through 2010. The student researchers are professionals in the field of law enforcement, the military, and the private sector. The literature review included in this report draws from academic journals, government studies, trade magazines, and popular literature.

The student researchers analyzed 378 police-involved vehicle crashes from LMCIT, and looked at multiple factors as possible causes. In addition to analyzing the data, we attempted to show whether there is a relationship between distracted driving and police auto liability claims, what the contributing factors are if a relationship does exist, what the potential loss control strategies are, and how they could be implemented in law enforcement agencies.

- The results of the data from LMCIT show that the overall average cost per claim was approximately $3,000. However, the data shows that distracted driving claims cost an average of $6,000.

- Distracted driving can be attributed to approximately 14% of all claims, but accounted for 17% of all costs.
- One half of all crashes that involved distraction from technology involved the use of squad car computers, also known as a Mobile Data Computers (MDC's). These were found to be the most expensive claims, averaging about $10,000 per claim.

The researchers discovered several limitations on their ability to study distracted driving and its effect on law enforcement officers. First, while the data provided by LMCIT included the majority of cities in Minnesota, they do not have data from several of the largest agencies in the state. In addition to the exclusion of several of the largest law enforcement agencies in the state, researchers were only given access to closed crash files, and data contained in those files sometimes varied in content.

Second, there are a lack of controlled, scientific studies that accurately reveal the impact distracted driving has specifically on the law enforcement community. Without any established research to which this study's findings could be compared, the researchers were unable to accurately gauge the validity of their findings. The researchers found that cell phones and text messaging are the two main forms of technology that have been studied in terms of distraction in a vehicle among the general public. While some of this data can be extrapolated and applied to the field of law enforcement, the researchers do not intend to suggest that an in-vehicle computer is similar enough to a cell phone to bridge that gap in the data.

Third, the researchers found that the culture of law enforcement and potential for disciplinary actions stemming from crashes appeared to impair the ability of LMCIT claims adjusters to gather completely true and accurate data. Based on the findings of this research and

our personal experiences in the field, we have made several recommendations for both individual agencies and for LMCIT.

To begin with, the researchers recommend that agencies create a program in which law enforcement officers are trained to recognize the increased risk associated with the use of technology while driving. While each agency will likely have different policies and procedures regarding the use of mobile technology, we feel that training and awareness are essential in communicating the potential risks and reducing the frequency of distracted driving incidents.

Furthermore, we recommend that agencies take a critical look at the technology being placed inside a squad car. Contained in this report are several photographs of the interior of squad cars from throughout the metro area. Simple reconfigurations of equipment inside a squad car may have a significant effect on the ability for the officer to see hazards on the road.

Finally, we recommend adjusting the data collection questions by LMCIT claims adjusters. We believe that in order to clearly identify whether distracted driving is a factor in crashes and to what extent that distraction played in the crash a more direct line of questioning to the officer(s) involved and to those who may witness the crash is necessary.

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Introduction

Distracted driving has been shown to be a contributing factor in many automobile crashes (NHTSA, 2010). Because of the costs associated with this, LMCIT has identified distracted driving as an area in need of research and analysis.

The typical American work year totals 2,080 hours. As dictated by their job duties, patrol officers tend to spend the majority of their shift in their vehicles. From the researchers' personal experience, somewhere between one half and three quarters of the work year for a police officer assigned to patrol is spent in a squad car. This may be spent on general patrol or responding to calls for service. Physical hours spent in the vehicle increase even more as police vehicles are outfitted so that officers can complete the majority of their daily tasks within the confines of this small area. That is, the squad car essentially becomes their mobile office. The above average hours spent driving by officers will arguably lead to an increased likelihood to be involved in a crash. Because of these factors, the researchers hypothesize that the numerous distractions inside the cab of a police vehicle are a major contributing factor to both the frequency and severity of police auto liability claims.

This paper begins by reviewing the literature involving distracted driving. Next, we discuss the significance of the research as well as the questions the researchers hope to answer. We then describe the methodology used to gather the data on the paper claim files for closed police auto liability claims. Following that, we review the results of the data analysis. We then discuss the significance of the findings from our unique perspective as both researchers and law enforcement professionals and the limitations of the study. Last, we identify loss control solutions and implementation recommendations based on a combination of our findings and our professional experience.

Literature Review

This literature review examines the issue of distracted driving and the impact it has on the general public, private organizations, and the law enforcement community. The purpose of this literature review is to provide an overview of distracted driving and suggest strategies to help mitigate the risk distracted driving poses to both public and private organizations. The research draws from academic journals, government studies, trade magazines, and popular literature.

Distracted Driving Defined

Generally, the definition of distracted driving is well understood. However, several reputable sources have provided definitions that provide definitions to terminology. According to the U.S. Department of Transportation (U.S. DOT, 2010), distracted driving can be divided into three categories: "visual, manual, and cognitive distractions" (p. 1). The visual component involves the driver taking his or her eyes off the road; the manual component involves the driver taking his or her hands off the driver's wheel; and the cognitive component involves the driver taking his or her mind off from the task of driving. Ultimately, the U.S. DOT (2010) states, "distracted driving is any non-driving activity a person engages in that has the potential to distract him or her from the primary task of driving and increase the risk of crashing" (p. 1).

From a law enforcement perspective, a much simpler definition of distracted driving comes from Richard Ashton, a retired police chief from Maryland. In an article written for Police Chief Magazine, Ashton (2010) stated distracted driving is "focusing on anything other than driving, while driving" (p. 116). He included behaviors such as adjusting vehicle controls, looking away at another object or searching for an address rather than focusing on the roadway (Ashton, 2010).

Distracted Driving Research Methodologies

Although there are a limited number of studies on distracted driving, a few different approaches have recently been used to study distracted driving in a quantitative manner. Two studies, one conducted by NHTSA and the other by Virginia Tech Transportation Institute in cooperation with NHTSA, have shed some light onto distracted driving. The first NHTSA study, the National Motor Vehicle Crash Causation Survey (NMVCCS) (NHTSA, 2009) was completed in 2009. This nationwide survey investigated crashes involving passenger vehicles with a focus on pre-crash actions. The NMVCCS survey, which started in January 2005 and continued through December 2007, looked at 6,950 total crashes. "A nationally representative sample of 5,471 crashes" (NHTSA 2009, p. 5) from July 3, 2005 to December 31, 2007 were examined. According to NHTSA, "the survey was unique in that researchers were granted permission from law enforcement and emergency responders to be on the scene of the crash" (p.5).

Their researchers were able to evaluate "the critical event that preceded the crash, the reason for this event, and any other associated factors that might have played a role" (p. 5). The study cited failure to stay in a lane of traffic or on the road as examples of critical preceding events. Their researchers credited "the driver, the condition of the vehicle, failure of the vehicle systems, adverse environmental conditions, or roadway design" (p. 5), as causes for the crashes (NHTSA, 2009). They explained that each of these components was then broken down further to reveal specific critical reasons for the crash: driver inattention, internal distraction, and external distraction. The survey incorporated different aspects of driver distraction including the use of electronics, cognitive distractions (such as daydreaming), additional passengers in the vehicle, and eating or drinking, thereby allowing the researchers to actually measure driver

distraction in crashes (NHTSA, 2009). Results showed that driver inattention was cited as "the critical reason in 3% of the crashes, internal distraction was cited in 11% of the crashes, and external distraction was cited in 4% of the crashes" (p. 5). In other words, approximately 18% of the total crashes reported were attributed to driver distraction.

The second in-depth study, the 100-Car Naturalistic Driving Study (NHTSA, 2009) was undertaken in 2004. Sponsored by NHTSA and conducted by the Virginia Tech Transportation Institute (VTTI), the study followed the behavior of drivers of 100 vehicles fitted with video and sensor devices for over a year. The statistics covered roughly two million vehicle miles and 43,000 hours of driving (NHTSA, 2009). The study selected drivers less than 25 years of age who lived in the Washington, D.C. Metropolitan area. This area was selected because it offered a driving environment focused on both urban and suburban driving conditions. "During the 100-car study, complete information was collected on 69 crashes, 761 near-crashes, and 8295 incidents" (NHTSA, 2009, p. 6). The study defined the term "incidents" as "unexpected events resulting in a close call or requiring fast action (evasive maneuver) on the part of the driver to avoid a crash" (NHTSA, 2009, p. 2). According to the study, "secondary task involvement is defined for the study as driver behavior that diverts attention away from the driving task; may include listening to cell phone, eating, talking to passenger, etc." (NHTSA, 2009, p. 6). The study results indicated that secondary task distraction contributed to over 22% of all the crashes and near-crashes documented during the study period (NHTSA, 2009).

Recent research from the University of Utah has also examined the distracted driving issue. The study was conducted by University researchers David Strayer, Frank Drews and Dennis Crouch (2006) in a structured laboratory setting using a driving simulator. It compared the driving performance of a driver using a cell phone to the performance of driver with a blood

alcohol concentration of .08. The study concluded, "The impairments associated with using a cell phone while driving can be as profound as those associated with driving while drunk" (p. 381). The study ultimately recommended not using a cell phone at all while driving (Strayer, et. al., 2006).

Advances in Technology

Advances in technology have contributed to the increase in distracted driving over the past several decades. According to Tripp (2005), the first radio was installed in an automobile in 1929. Since then, technology in automobiles has become more advanced and has increased in popularity (Evans, 2009). The sale of devices including navigation systems, in-car televisions, and collision avoidance technology was expected to exceed $9.3 billion in 2009 (Evans, 2009). According to the Automotive Business Review, approximately 7% of the 220 million vehicles on American roads have GPS units (Colenso, 2008).

Beginning in the 1950s with the advent of the two-way radio, the law enforcement industry has worked diligently to make patrol vehicles as high-tech as possible (Maghan, O'Reilly, & Chong Ho Song, 2002). The two-way radio changed policing in that officers no longer had to watch for a signal, often a blue or red light on the city water tower, to notify them of a call for service (Donahue & Demand, 2011). The first stationary radar units used to clock a vehicle's speed began appearing in police vehicles in the 1950s ("History of Radar," 2011). Eventually, speed detection technology advanced enough to allow the patrol car to be moving and still accurately capture the speed of the target vehicle ("History of Radar," 2011).

The standard patrol squad remained relatively unchanged until the 1980s when mobile data terminals (MDT's) began appearing in squads (Foster, 2008). Retired Los Angeles Police Lieutenant Raymond Foster explains in an article on police technology that originally MDT's

were very basic computer terminals that connected an officer to limited databases by typing requests into a command line. Some MDT's provided access to the National Crime Information Center, while others simply provided a connection to state motor vehicle information. The MDT's evolved from simple terminals to actual computers, called mobile data computers (MDC's). MDC's then began to provide a real-time link from a mobile squad car to off-site information sources (Foster, 2008).

As the twentieth century came to a close, MDC's began to appear throughout the nation, giving officers access to a wealth of information, all contained within their squad car (Foster, 2008). It is estimated that in 2010, 75% of police squads had on-board computers, a figure that doubled over the past decade (Richtel, 2010). Today, officers have all of the previously mentioned technology at their fingertips in addition to whatever they personally carry into the vehicle (Donahue & Demand, 2011). Many police officers bring personal electronic devices into their squad with them while on-duty, further adding to the potential distractions inside a patrol car (Donahue & Demand, 2011).

Distracted Driving Awareness Initiatives

Distracted driving is generally on the public policy community's radar. Eleven states enacted laws addressing distracted driving in 2010 alone (Governors Highway Safety Association, 2011). According to Ellison (2010), thirty states have existing laws that prohibit, in some form or another, drivers from text messaging while driving. Of the thirty states with legislation on the books, eight have prohibited all classes of drivers from using any hand-held cell phones while driving. Other states have laws that target only a segment of drivers, such as teenagers or those with learner's permits (Governors Highway Safety Association, 2011). Novice drivers are prohibited from operating any motor vehicle while using a cell phone in

twenty-eight states and bus drivers have been prohibited from cell phone use in eighteen states (including Washington D.C.) when passengers are present (Governors Highway Safety Association, 2011).

A 2009 survey of 2,000 companies by the National Safety Council (NSC) found that 469 prohibited the use of cell phones, including hands-free devices and 99% of them saw no loss of productivity (NSC, 2009). Other companies, while falling short of an absolute ban, took action to guide employees in that direction. For example, General Motors suggests that all of its employees refrain from making calls while driving and outright banned text messaging while driving company vehicles "with no exceptions" (General Motors, 2011). The company recommended if a call is absolutely necessary while driving to use hands-free devices, to ask passengers to place the call for the driver, and to avoid highly emotional calls (General Motors, 2011, Safety Initiatives, para. 3).

Liability and Employment Policy Issues

In reaction to the increasing number of motor vehicle accidents and deaths attributed to distracted driving, the U.S. DOT, in conjunction with the Occupational Safety and Health Administration (OSHA), has ramped up efforts to encourage employers to enact safety policies addressing the use of electronic devices while driving (Ellison, 2010). These initiatives followed President Obama's October 1, 2009 issuance of an Executive Order barring federal employees from texting while operating government owned vehicles (Richtel, 2009).

The private sector has moved in the same direction. Anne Ellison (2010), a member of the Labor and Employment Law Department of the law firm Dinsmore & Shohl Ellison states, "In this age of instant information gratification, it is easy to forget that the multitude of electronic

devices we use for communication can have a downside" (Ellison, 2010, para. 1). In her view, distracted driving presents unique challenges for employers (Ellison, 2010).

Similarly, McCabe (2004), a lawyer who specializes in employment law, believes distracted driving has become an important issue for all employers. He recommends that company policies and guidelines concerning distracted driving be clearly defined in employee handbooks (McCabe 2004). Furthermore, employees should be required to sign an acknowledgment of the fact that they are aware of the company policy and agree to abide by it. He also urges employers to limit potential vicarious liability by implementing policies prohibiting or limiting the use of electronic communication devices while driving (McCabe, 2004).

Ellison shares this concern about vicarious liability, stating, "The potential for vicarious liability to employers for their employees' accidents while talking or texting should provide the incentive for employers to address this issue with their workforce now" (Ellison, 2010, para. 3). She goes on to note that an employer can be liable for negligence in failing to adequately warn employees regarding the risks of use of electronic devices while driving or failing to take other measures to reduce risk (Ellison 2010) and cites the following court cases as examples:

- *Elender v. Neff Rental, Inc.*, 965 So.2d 898 (La. Ct. App. 2007), the employer was found vicariously liable because, at the time of the accident, the employee was using a cell phone the employer had provided and also had never prohibited the employee from using the cell phone while driving.
- *Bustos v. Dyke Industries Inc.*, a lumber wholesaler settled for over $16 million after one of its salesmen hit and severely disabled an elderly woman while talking on a cell phone.

Ellison (2010) asserts, “The safety and liability risks of not having a policy banning use of electronic devices while driving are becoming too great; employers need to incorporate such a policy into their everyday operations” (para. 10). Ellison believes that when crafting a policy to mitigate employee distracted driving, an employer should consider the following recommendations. They should begin by making it clear that safety for the employee and the public is the priority and ensuring that communication and technology devices are clearly defined. Everyone in the workplace should be covered by the policy. Employers should also guarantee the policy addresses both company-issued and personal devices, that all employees are trained on the policy, and that there are well defined consequences for violating of the policy. In order to be effective, the policy must be consistently enforced (Ellison, 2010).

Significance

A review of the literature shows the significance of distracted driving in relation to automobile crashes with the general public. However, research on distracted driving and law enforcement officers is nearly non-existent. As a result, we conducted a hands-on research study to analyze the impact of distracted driving within Minnesota’s municipal law enforcement agencies. The results of this study will be useful to law enforcement agencies in identifying the primary factors that are the cause of law enforcement vehicle crashes. Identification of these factors may allow these agencies to reduce crashes involving their law enforcement vehicles. It may also mean a reduction in claim payouts for LMCIT. Lastly, our recommendations will form the basis for future development and implementation of training guidelines to reduce law enforcement vehicle crashes.

Research Questions

This research study attempts to answer the following questions:

1. Is there a relationship between distracted driving and police auto liability claims?
2. If the data shows that a relationship exists, what are the contributing factors?
3. What are potential loss control strategies?
4. How can the recommended loss control strategies be successfully implemented in law enforcement agencies?

Methods

Saint Mary's University of Minnesota Public Safety Administration graduate students were given access to 378 paper claim files from agencies insured by LMCIT. Dates covered were from 2006 to 2010 and data collected was from closed police auto liability claims. The researchers used adjuster notes and associated reports in an attempt to create a description of the crash and identify common factors or issues that contribute to police auto liability claims (see Figure 1).

1. Time of day
2. Month
3. Single versus multi vehicle crash
4. Was “weather” an issue?
5. Was “road surface” an issue?
6. Light conditions at time of crash
7. Was “driving conduct” an issue? (backing, emergency response, general, parked, unknown)
8. Motion of vehicle (backing, forward moving, parked, unknown)
9. Rural versus urban police department
10. Number of officers per department
11. Was “other driver error” in the crash an issue?
12. Was “technological involvement” an issue?
13. Was “distracted driving” an issue?
14. Were “non-related distractions” an issue?
15. Was “faulty squad equipment” an issue?

Figure 1

Once the common themes were identified, the researchers conducted a qualitative thematic analysis of the data using the claim descriptions. The data was compiled and entered onto a Microsoft Excel spreadsheet. After this process was complete, LMCIT risk data analyst Mandy Clemenson provided advanced statistical analysis on the data that had been collected. During this process, Clemenson assisted by creating graphs based on the data that researchers provided.

Using the graphs, researchers used cost data and claim counts to conduct a quantitative analysis of frequency and severity of crashes using the thematic categories that were created. The combination of both qualitative and quantitative analyses allowed students to identify,

evaluate, and prioritize the factors that contributed to police auto liability claims. Finally, the students researched and identified practical loss control solutions based on the issues and themes identified from the data analysis. While working with Clemenson, key loss control targets were established and possible loss control solutions were formulated. The issue of distracted driving by law enforcement resulting in auto liability claims is essentially uncharted territory. Due to the fact that there is a limited amount of research in the area of distracted driving and how it relates to law enforcement, the researchers used a practical, experiential approach to the research and identification of loss control solutions.

Results

The researchers looked at the universe of closed police auto liability claims from 2006-2010. During that period of time, there were 378 claims worth approximately $1,188,666. Overall, the average cost per claim for a police auto liability claim was about $3000.

Time of Day

Approximately 79 % of claims and 84% of costs were for crashes that occurred between the hours of noon and midnight (see Figure 2). However, nearly a quarter of claims and costs of police auto liability claims were from crashes that occurred between the hours of noon and 4 p.m. (see Figure 2). When looking at a “per claim” basis, on average, the most expensive claims occurred between 8 p.m. and midnight, at a cost of approximately $6,000 for each claim (see Figure 3).

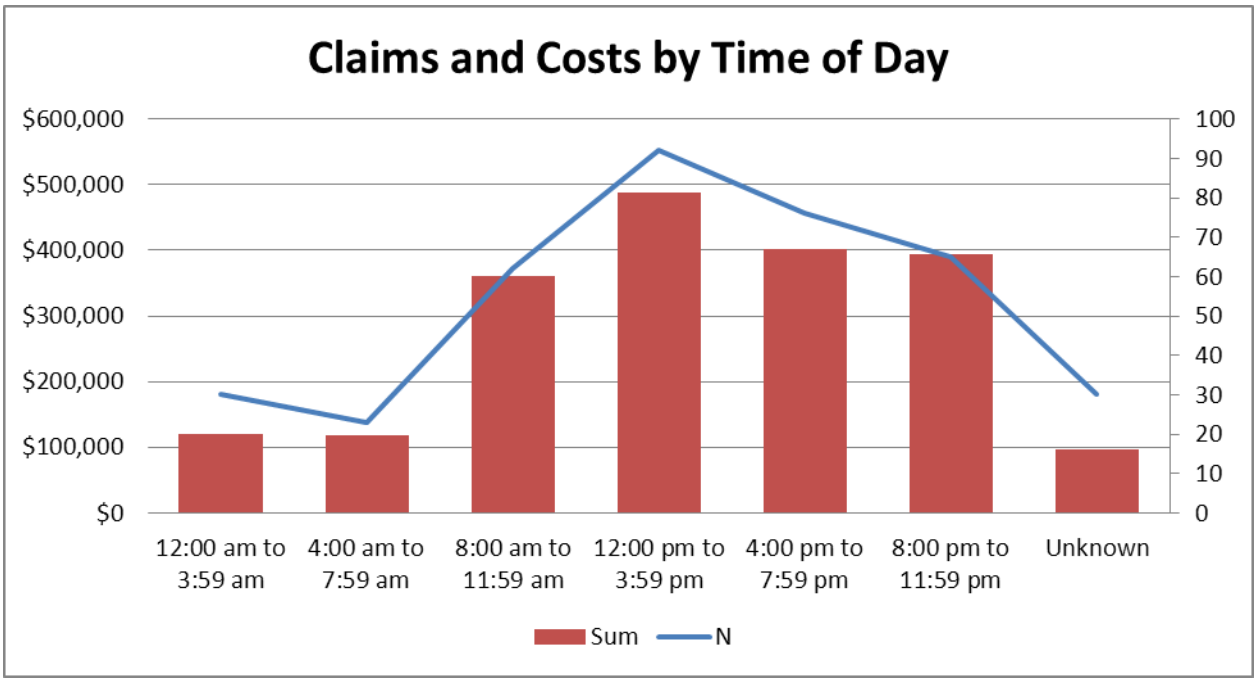


Figure 2

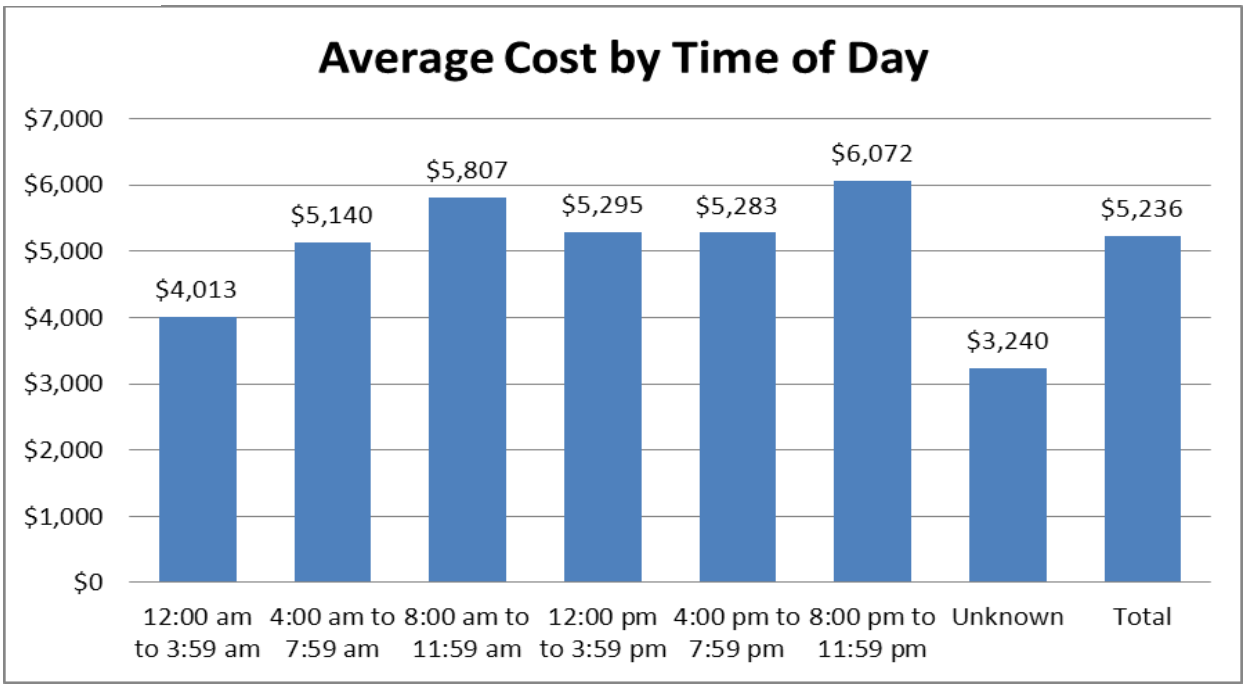
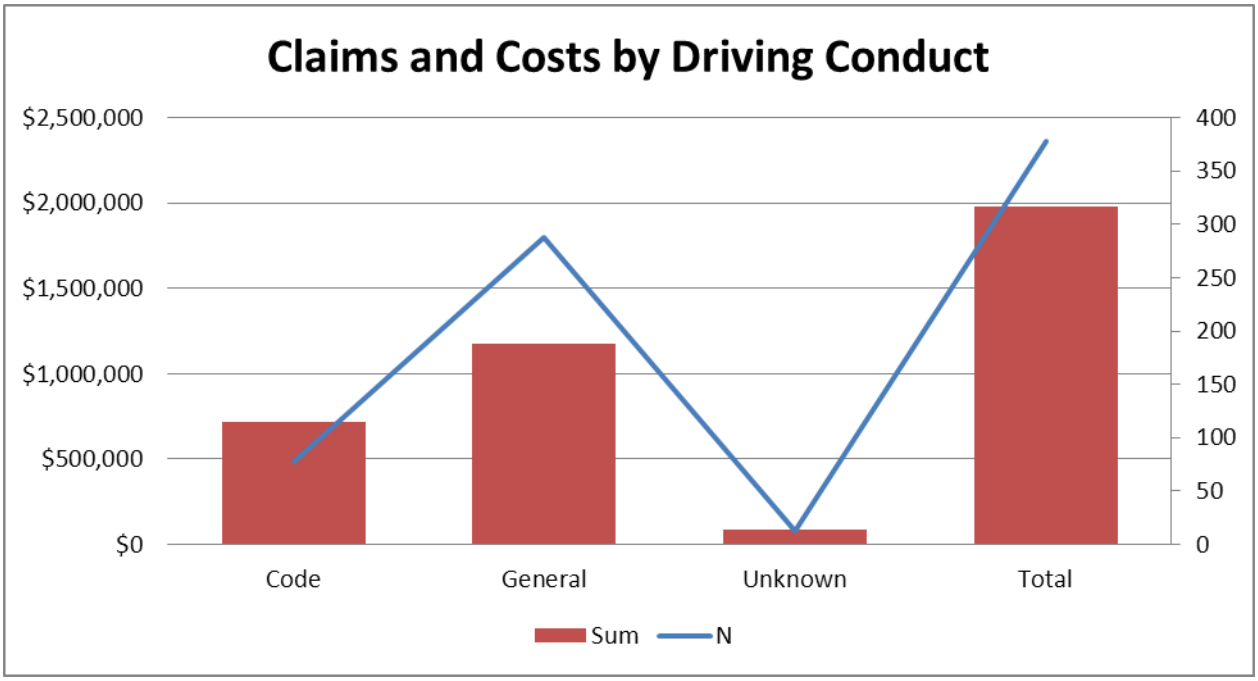


Figure 3

Driving Conduct

Nearly 70% of claims and 58% of costs were for crashes that occurred when an officer was engaged in general driving conduct (see Figure 4). General driving conduct was defined as

any driving conducted in a non-emergency response. However, the average cost of a police auto liability claim when an officer was engaged in emergency driving (driving with lights and/or sirens activated) was over five times more costly than an crash where an officer was engaged in general driving conduct (see Figure 5).



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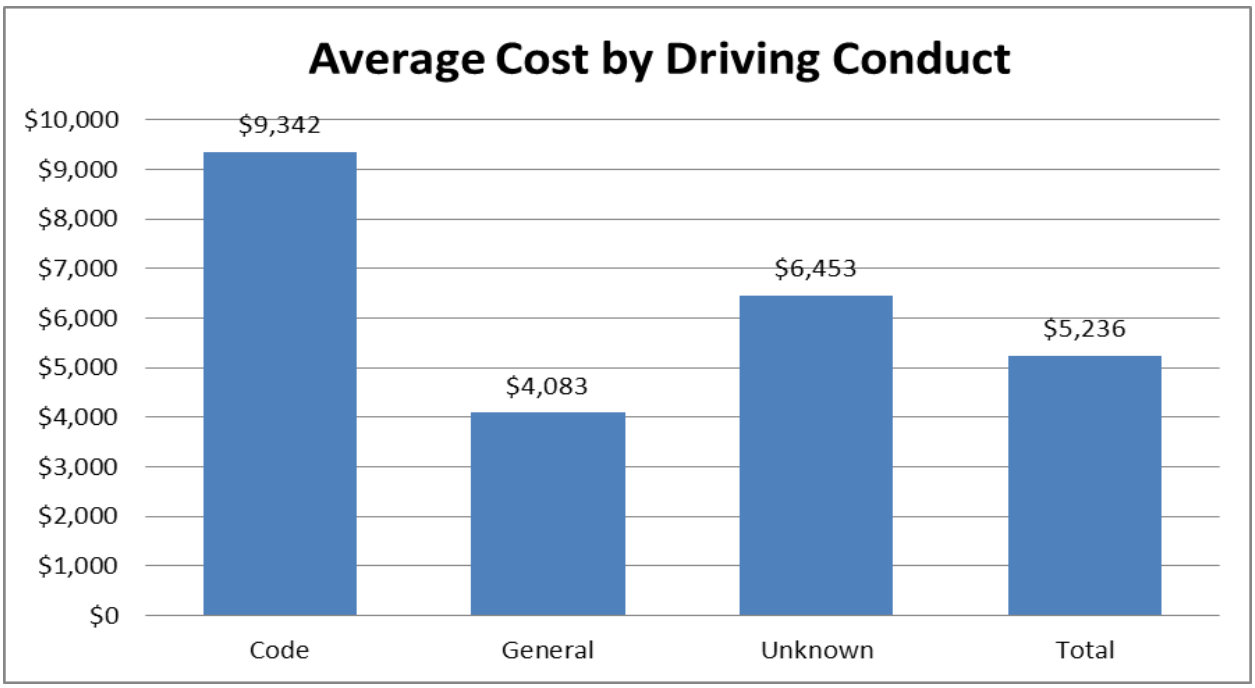


Figure 5

Motion of Vehicle

Crashes that occurred when officers were driving in a forward motion made up 70% of claims and 86% of costs (see Figure 6) while vehicles that were backing accounted for over 26% of crashes, yet were responsible for only 12% of costs (see Appendix A). On a per claim basis, the most expensive claims were the result of vehicles driving in a forward motion (see Figure 7).

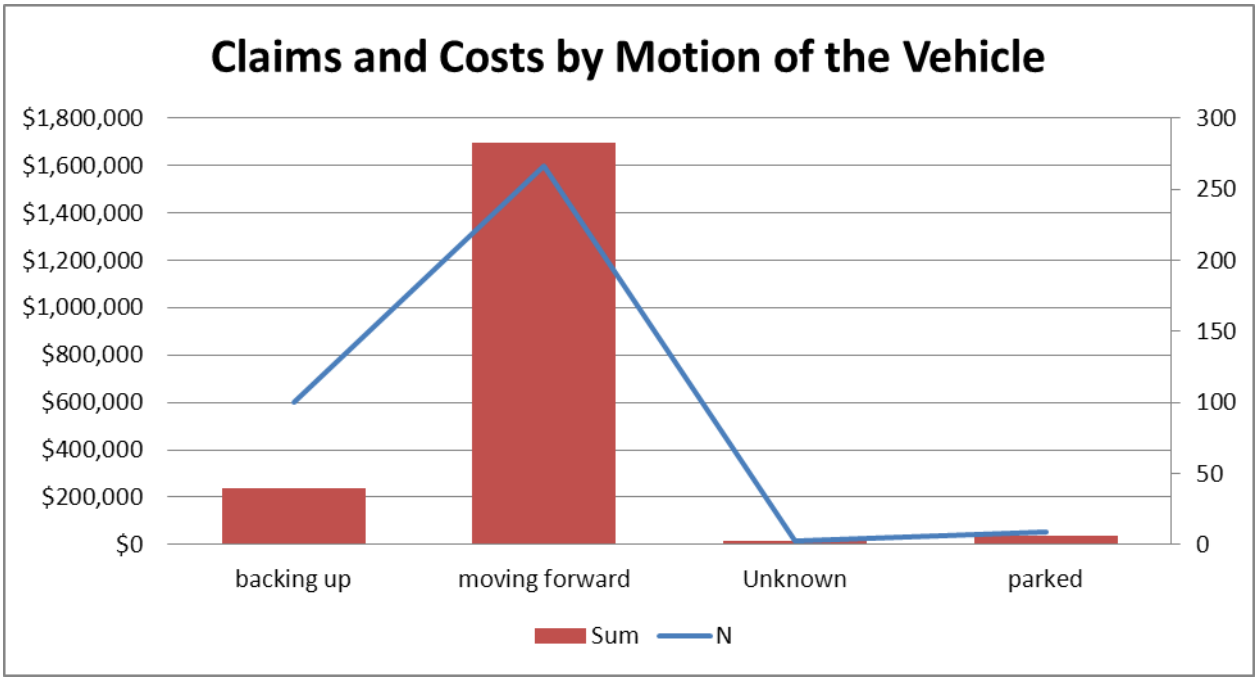


Figure 6

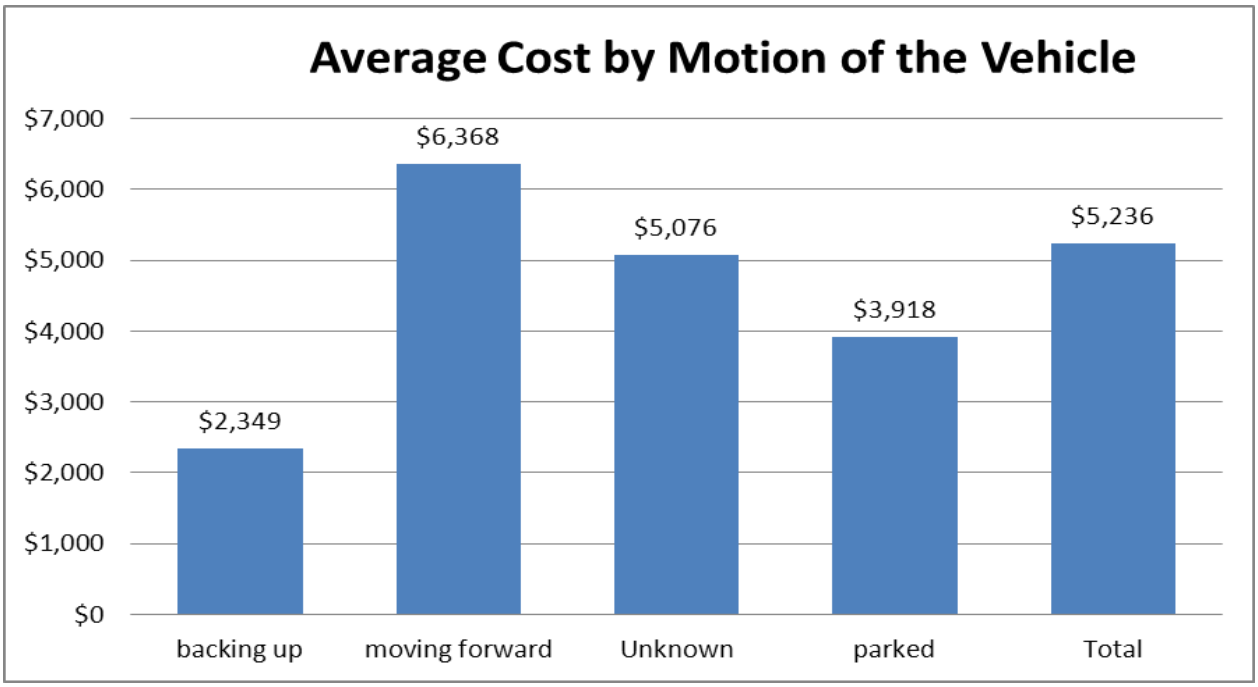


Figure 7

Distracted Driving

Fourteen percent of claims and 17% of costs were for crashes that involved distracted driving (see Figure 8). Distracted driving appeared to affect only a small number of crashes. However, on a per claim basis, the most expensive claims were crashes that involved distracted driving, at a cost of approximately $6,600 per claim (Figure 9).

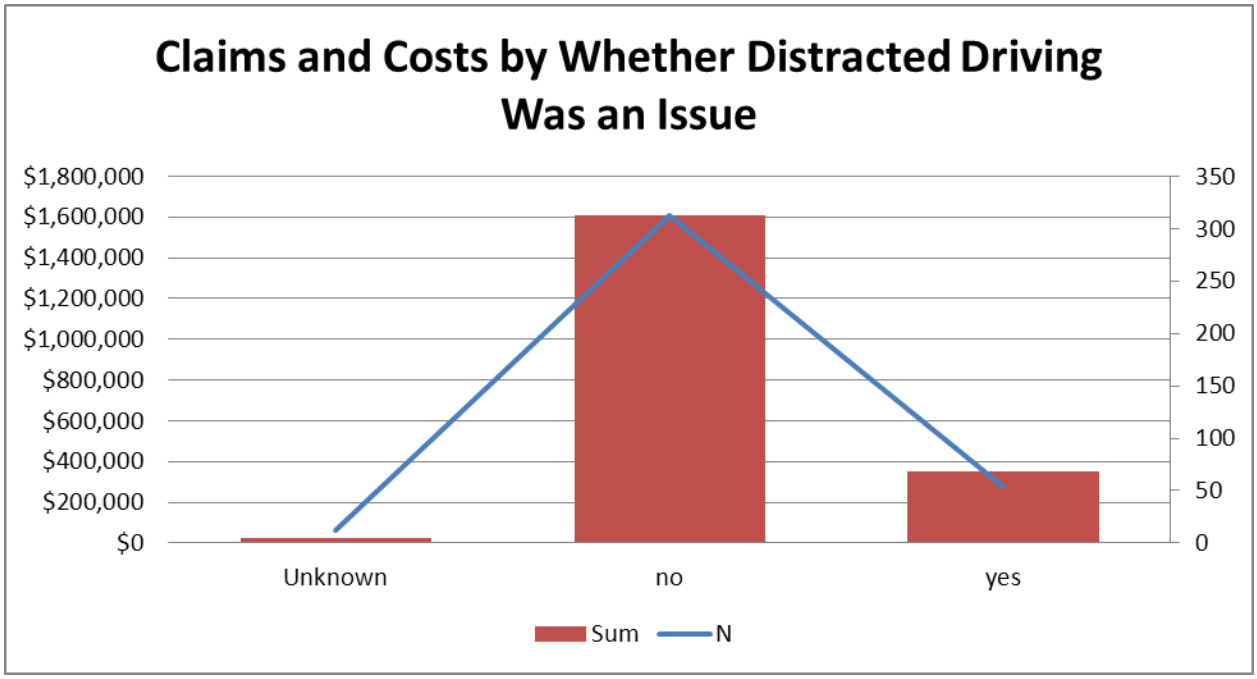


Figure 8

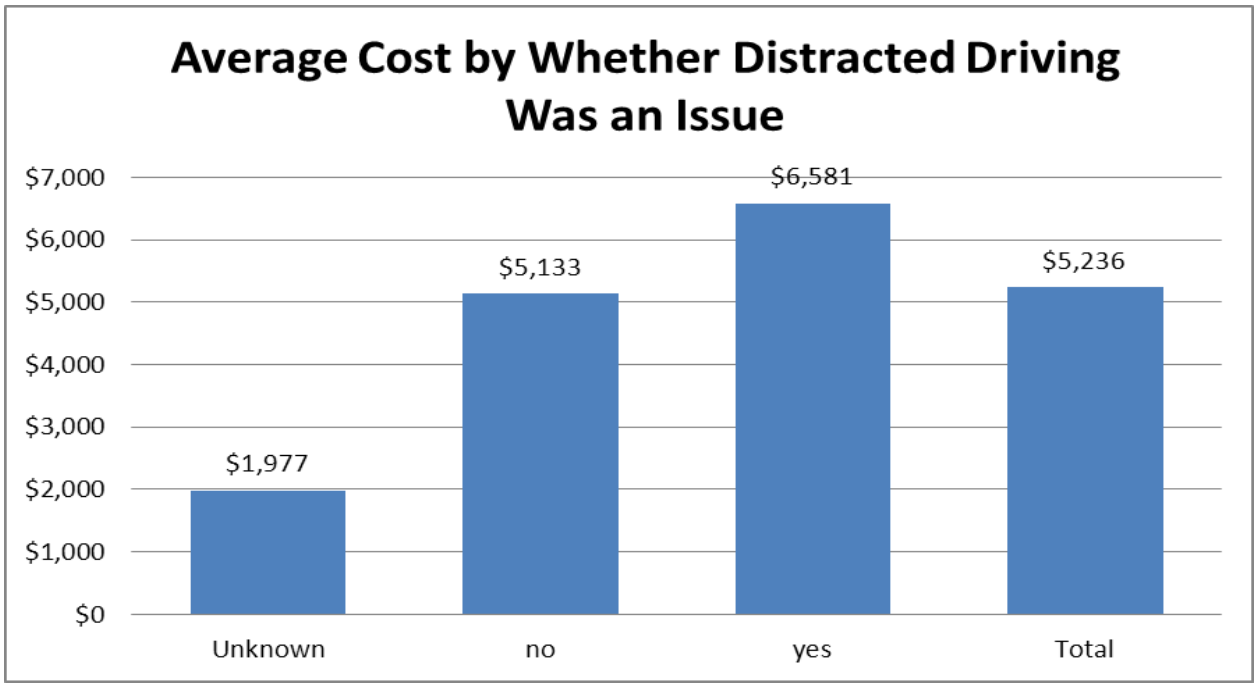


Figure 9

Technology

Through personal experience, the researchers hypothesized that in-vehicle technology may play a large part in distraction to the officer. In an attempt to show whether this was the case, the researchers extrapolated the data regarding the use of technology as a specific form of distraction relating to crashes.

Approximately 12% of claims and 24% of costs were for crashes where technology contained inside a squad car was involved (see Figure 10). One half of all incidents related to technology involved an officer's in vehicle computer, or MDC (see Appendix A). On a per claim basis the most expensive claims were influenced by technology, at a cost of approximately $10,000 each (see Figure 11). It should be noted however, that 48% of the closed claim files did not state clearly whether the crash was influenced by technology as reported by the claims adjuster or officer.

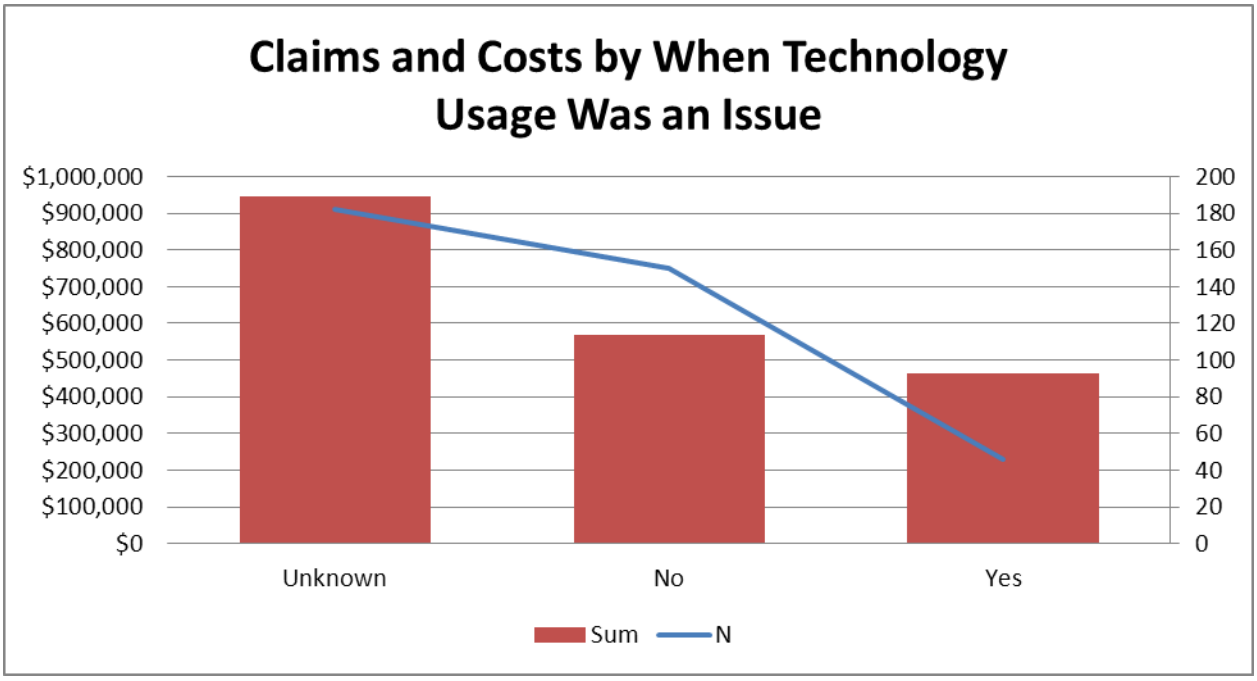


Figure 10

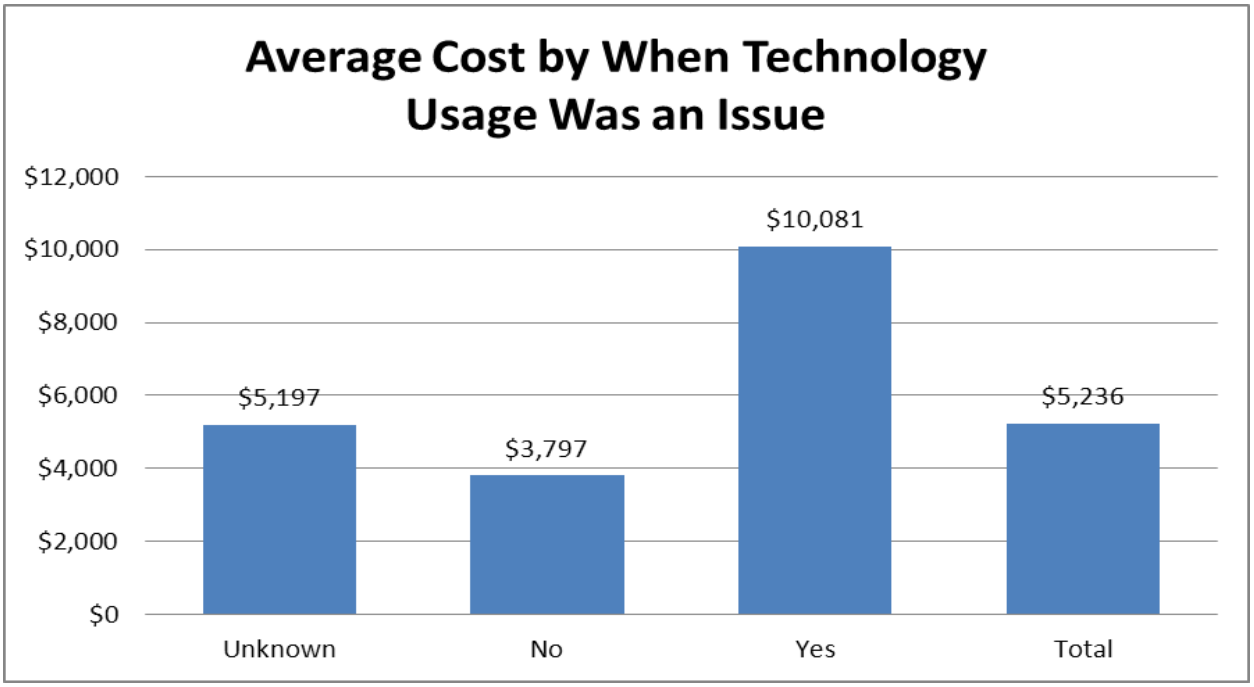


Figure 11

Additional Thematic Categories

After conducting the advanced statistical analysis, it was determined that the thematic categories of month, weather, road surface, day vs. night, single vs. multi vehicle crash, rural vs. urban police department, number of officers per department, non-work related distractions, and faulty squad equipment did not yield enough information to draw conclusions on the effect of police auto liability claims (see Appendix B for graphs).

Experiential Conclusions

After reviewing the crash data, it was apparent that the majority of crashes occurred mid-day between the hours of noon and 4 p.m. From experience, we believe this may be attributed to the greater number of officers on duty, as well as the greater density of traffic during those hours. The most expensive claims occurred between 8 p.m. and midnight. We concluded this might be the result of several factors. Again, from experience, during the hours of 8 p.m. to midnight there are still a significant number of vehicles on the road. During this time of the night, many

officers may begin to feel the fatigue of a busy shift, long hours, or the physical effects of driving in the dark. We also considered the fact that the general public may experience the same fatigue, along with the drug or alcohol use which is typically seen more frequently in the mid to late night hours.

The data distribution indicated that the largest number of crashes were when an officer was engaged in general driving conduct. This can likely be attributed to the fact that an officer spends the majority of his or her shift on general patrol (traffic stops, providing extra patrol, non-emergency calls for service) as opposed to responding to calls with an emergency response (lights and/or sirens). It should be noted that the most expensive claims occurred when an officer was driving in an emergency response. This is likely due to the fact that officers driving in an emergency response are traveling at a high rate of speed and passing through intersections against traffic signals. Single or multi-vehicle crashes that occur as a result of high speeds are more likely to do greater damage than crashes at low speeds.

The majority of crashes occurred when an officer was driving their vehicle in a forward motion. The data also indicated that these crashes were the most expensive compared with other crashes. It is reasonable to assume that vehicles driving in a forward motion tend to be moving at a faster rate of speed than vehicles backing up.

Although the crashes attributed to distracted driving account for a proportionately low number of the total claims, they were the costliest at approximately $6,600 per incident. Of the distracted driving claims involving technology, the MDC was mentioned most frequently as the source of distraction (see Appendix A & Figures 8 & 10). When technology was considered the cause of the distraction, claim costs jumped to nearly $10,000 per incident. Officers typically

utilize their MDC for dispatch related transactions, information checks or requests, advanced records management systems integration, and instant messaging between computers.

The researchers feel that it is difficult to draw accurate conclusions from this data. The habits each officer has while driving and using the MDC vary widely and may be influenced by any number of factors. Speed of the squad, location (urban or rural areas), the officer's driving conduct (emergency or general), and additional visual, cognitive, and manual distractions are all likely to play a part in crashes. Discussion among the researchers revealed these factors influence each officer differently. We feel that in order to more accurately assess why these types of accidents are so costly, more data is needed. Recommendations for data collection are addressed later in this paper.

Limitations

When compiling the data, the researchers found that there were many pieces of information that they thought were most helpful and were not always contained in the files. These included accident reports and officer or witness statements. We believe that in order to aid in future research, an emphasis should be placed on obtaining these key reports in every file.

LMCIT, "is a member-driven organization that exists solely to meet the risk management and insurance needs of Minnesota cities" (LMC.org, 2011, "LMCIT meets", para. 1). According to 2010 data from the Minnesota Peace Officers Training and Standards Board, which regulates and licenses all full and part-time law enforcement officers in the state, there are 454 law enforcement agencies in the state of Minnesota (Melton, 2010, p. 56). Although LMCIT insures most municipal agencies, it does not insure the large cities of Minneapolis, St. Paul, and Duluth, or a handful of other smaller cities in the state (D. Greensweig, personal communication, March 29, 2011). Additionally, because LMCIT does not insure county agencies, there was no

information regarding sheriff departments, which comprise many of the largest law enforcement agencies in the state. The inclusion of large urban cities and county law enforcement agencies that are not insured by LMCIT would likely have a significant effect on the results of this study.

Another limitation to the research was that the data analyzed included only closed claim files. Reasons for files being open include pending or active investigations and open litigation. At the time of this study, there were 47 open files from 2006-2010 to which researchers were not given access (M. Clemenson, personal communication, March 30, 2011). The exclusion of this data has the potential to alter the findings through both the total number of crashes and the cost of each claim.

The third limitation to this study identified by researchers was the culture of law enforcement itself. Through personal experience, the researchers have seen a shift in the way many agencies conduct day-to-day operations. Squad cars are more often becoming a mobile office in which the officer has the ability to perform almost any task required of him or her. We believe improving officer efficiency through the use of technology may come at a cost. As officers are expected to spend more time in a squad car and as more pieces of technology are added to that car, the opportunity for distraction and mistakes increase.

Individual departmental policies and procedures presented an additional difficulty in gathering accurate data. An officer will be closely scrutinized following involvement in a work related crash. An officer who shows inattention, carelessness, or distraction while performing essential duties is at-risk for departmental discipline. Ultimately, discipline may lead to termination. It is understood that an officer may weigh these factors when giving a statement regarding the facts of a crash.

Recommendations

After the research team found that distracted driving had only a small affect on crashes as compared to the other variables, we attempted to draw from over 100 years of collective law enforcement experience amongst team members to suggest possible explanations. Additionally, we made recommendations for agencies to consider when attempting to reduce police automotive liability claims.

Policy & Training

The risks associated with distracted driving by law enforcement cannot be ignored. Our first recommendation is that police administrators acknowledge the risks associated with distracted driving and understand that the liability issues related to those risks can negatively impact an organization. Employers need to communicate to their employees that distracted driving is inherently dangerous and that the risks associated with distracted driving threaten public safety and can cause harm to the city that employs them. More importantly, employers must implement a policy or action plan that addresses distracted driving by employees with the objective of mitigating the risks associated with distracted driving.

The International Association of Chief's of Police (IACP) recommend, "All law enforcement agencies must adopt policies to prohibit the use of handheld communications and portable electronic devices not necessary to the performance of their official duties while a vehicle is in motion" (see Appendix D). While it does make some sense to limit or prohibit technological devices, the IACP "prohibitive" policy may not be the most desirable or practical approach to this issue based on several reasons. First, the IACP policy recommendation does not address the multitude of agency-installed equipment and technological devices that police officers utilize in their police vehicles in the performance of their official duties, often while the

vehicle is in motion. Second, a mandatory policy could limit the ability to claim immunities or other defenses during litigation. Finally, implementing a policy that is challenging to enforce, or one that is routinely broken or ignored, can lead to additional legal and managerial problems

Another approach to consider is developing a policy of awareness that addresses the issues and risks associated with distracted driving. This would, first and foremost, promote the goal of officer safety and the safety of the public by encouraging sound and reasonable discretion when making decisions to utilize technology devices while in a police vehicle. It is imperative that employees think critically and exercise sound judgment while weighing the consequences of their actions. The police culture is steeped in a tradition of training. Because of this tradition, it is important to realize any distracted driving policy must be adequately addressed in training sessions. This can create a level of officer buy-in that would otherwise be difficult to attain.

After implementing a policy, employers should develop training curriculum that pertains to the issues and risks associated with distracted driving while in a police vehicle. Furthermore, if feasible, the training curriculum should include a practical driving exercise while multi-tasking with technology devices so employees can see, firsthand, that their ability to drive is greatly debilitated when they are distracted. This was specifically demonstrated in a study conducted at the University of Utah by researchers David Strayer, Frank Drews, and Dennis Crouch (2006). The researchers determined that driving while using a cellular phone was equivalent to the effects of driving with a blood alcohol concentration of .08; the legal limit of intoxication.

Ultimately, it is up to the leaders of every law enforcement agency to analyze their organization and determine what actions they should take to mitigate the risks of distracted driving. Regardless of the actions taken, policies and procedures should be consistent with current law, be verifiable, include training, and be reviewed by legal counsel for the

organization.

Vehicle and Equipment Issues

The second recommendation is for agencies to revisit the interior of a typical police squad car. Officers in the 21st century have seen huge advances in car technology, much of which limits driver visibility. Just ten years ago, the typical police car was only equipped with a radar gun and a two-way radio. Today, many squad cars have mobile data computers, speed radars, global positioning system equipment, video cameras, suspect detainment cages, and rifle or shotgun racks, all of which may limit an officer's view of hazards on the road (see Appendix E). Furthermore, the researchers believe administrators must consider how to compensate for the decreased size of the automobiles available to public safety departments today (see Appendix F).

More specifically, our research found that many crashes occurred at controlled intersections where officers indicated they had difficulty seeing vehicles approaching from the right. From personal experience, the researchers believe that the placement of the squad camera could be a strong contributing factor to these crashes. Appendix E shows the view from the inside of several different squad cars from agencies in and around the metro area. As seen in the photographs, visibility from inside the cars is limited due to the placement of several pieces of equipment including the in-car camera, the cage system, and the MDC. Cameras are often mounted to the right side of the rear view mirror, which greatly diminishes the visibility of cars approaching from the right. In addition, MDC's can be mounted in several different positions, some of which limit the field of view of the officer (see Appendix G). The researchers recommend addressing the equipment placed in the officer's field of view and adjusting the equipment so that it is less likely to affect the officer's ability to see and drive safely.

While backing incidents made up only a small portion of the total claims to LMCIT, the researchers feel the "cage" of the squad car should be addressed to more greatly reduce the number of these claims (see Appendix H). The cage, which is the physical barrier placed between the officer and the prisoner in the back seat, has the potential to affect the officers field of view to the rear. Most agencies that employ the use of a cage use one of three types: steel cage in a waffle type pattern, a clear plastic cage, or a combination of half steel and half plastic (see Appendix H). The researchers concluded that a full steel cage most significantly minimizes an officer's view to the rear. They also found that the combination of steel and plastic creates a vertical partition that potentially inhibits the driver's field of vision to the rear (see Appendix H). Although the cost of crashes involving backing are minimal in comparison to other variables, the researchers believe that simply installing full plastic cages has the potential to reduce these incidents. We believe that consideration should be given to the design of the squad, with input gathered from those officers who utilize them everyday in order to place equipment in the most effective and safest manner possible.

Accident Investigation

Based on the data that was analyzed, the researchers compiled a list of questions we believe will aid in the collection of information to more accurately asses the underlying reasons for crashes in the future. In reviewing the accident reports from the League of Minnesota Cities, we believe the following information should be addressed by asking specific questions. Targeted questions regarding the following list will enhance the collection of data when a law enforcement accident claim is filed:

1. Driving Conduct (General/Backing/Emergency)
2. Technology usage involved: (MDT/Cell Phone/Radio)

3. Officer's Statement
4. State Accident Report Filed
5. Injury Accident
6. How many consecutive days has the Officer worked
7. Officer's start of shift time
8. Officer's normal end of shift time
9. Accident Location: (Roadway/Intersection/Parking Lot)
10. Officer's Shift Hours (Ex. 10 hour shift)

Conclusion

Throughout the United States, distracted driving contributes to multiple accidents. Advancements in technology have compounded this issue and increased the risk factors on the road. Police officers are especially at risk, as the combination of squad time and vehicular technologies limit visibility and create distraction.

After reviewing the available literature and analyzing 378 closed police auto liability claims from the League of Minnesota Cities, we have come to the conclusion that distracted driving is a contributor to police auto liability claims. However, the significance of this deduction has its limitations. Varied information in the claim files combined with law enforcement culture and departmental ethics undoubtedly affected the accuracy of the claim files.

Future law enforcement policies and training must address the significance of distracted driving and use technology by law enforcement officers. It is important that administrators design policies and procedures that emphasize the importance of safe technological usage while

allowing for officer discretion. In order to increase the accuracy of data collection, LMCIT should use standardized forms and adjustor notes need to indicate the cause of the accident. Finally, law enforcement agencies should re-visit the interior of their vehicles to ensure that their officers have optimal viewing area outside of the vehicle.

Departmental compliance with the recommendations set forth in this report has the potential to result in fewer automobile crashes. The goal of policy, procedure, training programs, and assessment of the interior of squad cars is to limit distractions to law enforcement personnel from the equipment in their automobile. If implemented properly, these changes have the potential to improve officer and civilian safety on roadways, set a good example for the rest of the driving public, and ultimately enhance public safety for everyone.

References

Ashton, R. (2010). Distracted driving: Law enforcements Achilles' Heel. *The Police Chief, 77*(12), 116- 118. Retrieved from EBSCO*host*.

Colenso, M. (2008). Do GPS units cause accidents? *How Stuff Works.* Retrieved from http://electronics.howstuffworks.com/gadgets/automotive/car-gps accidents.htm/printable

Donahue, J., & Demand, J. (2011). When physics trumps high technology. *Police One.* Retrieved from http://www.policeone.com/police-technology/articles/3229403 When-basic-physics-trumps-high-technology/

Ellison, A. (2010). Distracted driving policies: Improve safety and limit exposure. *National Law Review.* Retrieved from http://www.natlawreview.com /article/distracted-driving-policies-improve-safety-and-limit-exposure

Evans, R. (2009). *In Vehicle Technology at CES 2010.* Retrieved from http://www.i4u. com/32735/vehicle-technology-ces-2010

Foster, R. (2008). Cop cars: From buckboards to Buck Rodgers. *Police Technology*. Retrieved from http://www.police-technology.net/id55.html

General Motors. (2011). *GM adopts new employee distracted driving policy*. Retrieved from http://www.gm.com/corporate/responsibility/safety/news/2010/ distracted_032610.jsp

Governors Highway Safety Association. (2011). *Cell phone and texting laws*. Retrieved from http://www.ghsa.org/html/stateinfo/laws/cellphone_laws.html

History of Radar Guns in the USA. (2011). *Technology 101*. Retrieved from: http://www.1stradardetectors.com/support/technology-101/Radar_Gun_History_.html

Maghan, J., O'Reilly, G. W., & Chong Ho Shon, P. (2002). Technology, policing, and the implications of in-car videos. *Police Quarterly. 5*(25) doi:10.1177/109861102129198002

McCabe, H. (2004). Proactive risk management. *San Diego Business Journal*, *25*(3), 7. Retrieved from EBSCO*host*.

Melton, N. (2010). *Minnesota Board of Police Officer Standards and Training: Biennial report for fiscal years 2009-2010.* Retrieved from http://www.dps.state.mn.us/newpost/PDFs /09-10_ Final_Biennial_Report.pdf

National Highway Traffic Safety Administration. (2009). *An examination of driver distraction as recorded in NHTSA databases*. Retrieved from http://www.dot.gov/affairs/DOT%20HS%20811%20216.pdf

National Highway Traffic Safety Administration. (2010). *Distracted driving 2009*. Retrieved from http://www-nrd.nhtsa.dot.gov/Pubs/811379.pdf

National Safety Council. (2009). *Cell phone policy survey*. Retrieved from http://www.nsc.org/safety_road/Distracted_Driving/Pages/EmployerPolicies.aspx

.Richtel, M. (2010). Gadgets in squad cars pose 'growing danger' to cops. *Police One.* Retrieved from http://www.policeone.com/police-products/communications/articles /2017793-Gadgets-in-squad-cars-pose-growing-danger-to-cops/

Richtel, M. (2009, October 1). Texting while driving banned for federal staff. *The New York Times.* Retrieved from http://www.nytimes.com/2009/10/02/technology/ 02distracted.html

Strayer, D., Drews, F., & Crouch, D., (2006). A comparison of the cell phone driver and the drunk driver. *Human Factors*, *48*(2), 381-391. doi: 10.1518/001872006777724471

Tripp, J. (2005). The car radio: An interesting story. *Jim's Radio Museum.* Retrieved from http://www.antiqueradiomuseum.org/radiomuseum.htm.

United States Department of Transportation. (2010). *Statistics and facts about distracted driving* [Data File]. Retrieved from http://www.distraction.gov/stats-and-facts/index.html

Appendix A

Total Paid * Time Groups

Total Paid

Time Groups	N	Sum	Mean	Percent of N	Percent of Sum		
12:00 am to 3:59 am	30	$120,391	$4,013.05	7.94%	6.08%		
4:00 am to 7:59 am	23	$118,211	$5,139.61	6.08%	5.97%		
8:00 am to 11:59 am	62	$360,037	$5,807.06	16.40%	18.19%		
12:00 pm to 3:59 pm	92	$487,180	$5,295.43	24.34%	24.62%		
4:00 pm to 7:59 pm	76	$401,511	$5,283.05	20.11%	20.29%		
8:00 pm to 11:59 pm	65	$394,653	$6,071.59	17.20%	19.94%	78.04%	83.03%
Unknown	30	$97,189	$3,239.63	7.94%	4.91%		
Total	378	$2.E+06	$5,235.91	100.00%	100.00%		

Total Paid * Day/Night

Total Paid

Day/Night	N	Sum	Mean	Percent of N	Percent of Sum
Day	219	$1.E+06	$5,589.85	57.94%	61.85%
Unknown	26	$84,920	$3,266.14	6.88%	4.29%
Night	133	$670,077	$5,038.17	35.19%	33.86%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Year

Total Paid

Year	N	Sum	Mean	Percent of N	Percent of Sum
2006	96	$616,797	$6,424.96	25.40%	31.16%
2007	98	$455,309	$4,646.01	25.93%	23.01%
2008	92	$489,787	$5,323.77	24.34%	24.75%
2009	63	$329,872	$5,236.07	16.67%	16.67%
2010	29	$87,408	$3,014.09	7.67%	4.42%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Month

Total Paid

Month	N	Sum	Mean	Percent of N	Percent of Sum
Jan	32	$131,049	$4,095.29	8.47%	6.62%
Feb	31	$144,800	$4,670.98	8.20%	7.32%
March	32	$202,681	$6,333.78	8.47%	10.24%
April	21	$160,487	$7,642.26	5.56%	8.11%
May	47	$229,502	$4,883.02	12.43%	11.60%
June	20	$110,821	$5,541.05	5.29%	5.60%
July	36	$123,698	$3,436.05	9.52%	6.25%
Aug	32	$147,530	$4,610.30	8.47%	7.45%
Sept	33	$255,068	$7,729.33	8.73%	12.89%
Oct	28	$105,417	$3,764.88	7.41%	5.33%
Nov	24	$173,515	$7,229.81	6.35%	8.77%
Dec	42	$194,605	$4,633.45	11.11%	9.83%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Number of Cop Groups

Total Paid

Number of Cop Groups	N	Sum	Mean	Percent of N	Percent of Sum
1-9	44	$202,451	$4,601.17	11.64%	10.23%
10-19	41	$213,446	$5,206.00	10.85%	10.78%
20-29	96	$506,599	$5,277.07	25.40%	25.60%
30-39	27	$184,947	$6,849.90	7.14%	9.34%
40-49	46	$238,930	$5,194.13	12.17%	12.07%
50-59	46	$277,690	$6,036.74	12.17%	14.03%
60-69	8	$85,381	$10,672.58	2.12%	4.31%
70-79	7	$30,656	$4,379.38	1.85%	1.55%
80-89	9	$15,035	$1,670.52	2.38%	0.76%
90-99	5	$10,584	$2,116.73	1.32%	0.53%
100 or more	17	$50,282	$2,957.75	4.50%	2.54%
Unknown	32	$163,174	$5,099.18	8.47%	8.24%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Weather

Total Paid

Weather	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	101	$279,925	$2,771.54	26.72%	14.14%
No	178	$1.E+06	$6,573.32	47.09%	59.12%
Yes	99	$529,198	$5,345.43	26.19%	26.74%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Weather Details

Total Paid

Weather Details	N	Sum	Mean
	2	$19,989	$9,994.63
Blowing Sand/Dust/Snow	1	$1,854	$1,854.31
Clear	178	$1.E+06	$6,573.32
Cloudy	45	$289,600	$6,435.56
Unknown	99	$259,936	$2,625.61
Other	10	$19,041	$1,904.14
Rain	26	$161,241	$6,201.59
Sleet/Hail/Freezing Rain	3	$4,283	$1,427.83
Snow	14	$53,177	$3,798.36
Total	378	$2.E+06	$5,235.91

Total Paid * Multi/Single Vehicle

Total Paid

Multi/Single Vehicle	N	Sum	Mean	Percent of N	Percent of Sum
Multi	337	$2.E+06	$5,024.74	89.15%	85.56%
Unknown	9	$43,543	$4,838.08	2.38%	2.20%
Single	32	$242,292	$7,571.62	8.47%	12.24%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Road Surface

Total Paid

Road Surface	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	97	$278,626	$2,872.43	25.66%	14.08%
No	180	$1.E+06	$6,648.37	47.62%	60.46%
Yes	101	$503,841	$4,988.53	26.72%	25.46%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Road Surface Details

Total Paid

Road Surface Details	N	Sum	Mean
Dry	180	$1.E+06	$6,648.37
Ice-Packed Snow	29	$164,197	$5,661.95
Unknown	97	$278,626	$2,872.43
Other	10	$15,759	$1,575.88
Slush	1	$1,498	$1,498.03
Snow	10	$45,570	$4,557.04
Snow/Slush	4	$11,943	$2,985.72
Wet	47	$264,875	$5,635.63
Total	378	$2.E+06	$5,235.91

Total Paid * Other Driver Error

Total Paid

Other Driver Error	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	115	$547,203	$4,758.28	30.42%	27.65%
No	221	$1.E+06	$5,465.25	58.47%	61.03%
Yes	42	$224,150	$5,336.91	11.11%	11.33%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Driving Conduct

Total Paid

Driving Conduct	N	Sum	Mean	Percent of N	Percent of Sum
Code	77	$719,352	$9,342.24	20.37%	36.35%
General	288	$1.E+06	$4,083.08	76.19%	59.42%
Unknown	13	$83,895	$6,453.49	3.44%	4.24%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Driving Conduct Detail

Total Paid

Driving Conduct Detail	N	Sum	Mean
Backing	15	$22,979	$1,531.91
emergency	1	$37,092	$37,092.35
Emergency	70	$603,136	$8,616.23
Emergency with lights & siren	1	$1,650	$1,649.54
Emergency with lights, no siren	1	$9,657	$9,657.37
Emergency	1	$3,355	$3,355.28
Emergency with lights only	1	$350	$350.00
Emergency with no lights & siren but was needed	2	$64,111	$32,055.73
General	265	$1.E+06	$4,308.36
Unknown	13	$83,895	$6,453.49
Parked	8	$11,233	$1,404.14
Total	378	$2.E+06	$5,235.91

Total Paid * Tech Usage

Total Paid

Tech Usage	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	182	$945,879	$5,197.13	48.15%	47.79%
No	150	$569,546	$3,796.98	39.68%	28.78%
Yes	46	$463,749	$10,081.49	12.17%	23.43%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Tech Usage Detail

Total Paid

Tech Usage Detail	N	Sum	Mean
Unknown	182	$945,879	$5,197.13
no	146	$543,819	$3,724.79
No	4	$25,728	$6,431.88
yes	1	$7,163	$7,162.85
yes-cell phone	1	$2,804	$2,803.64
yes-lights	6	$56,478	$9,412.99
yes-lights/siren	10	$70,086	$7,008.64
yes-mdt	23	$259,621	$11,287.87
yes-mic and radio	2	$4,505	$2,252.37
yes-radio	1	$3,190	$3,190.43
yes-radio/lights/siren	1	$56,428	$56,427.68
yes-unknown	1	$3,474	$3,473.92
Total	378	$2.E+06	$5,235.91

Total Paid * Non Job-Related Distraction

Total Paid

Non Job-Related Distraction	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	190	$877,589	$4,618.89	50.26%	44.34%
No	166	$911,602	$5,491.58	43.92%	46.06%
Yes	22	$189,983	$8,635.59	5.82%	9.60%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Faulty Squad Equipment

Total Paid

Faulty Squad Equipment	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	122	$609,904	$4,999.22	32.28%	30.82%
No	252	$1.E+06	$5,311.10	66.67%	67.62%
Yes	4	$30,873	$7,718.24	1.06%	1.56%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Motion of Vehicle

Total Paid

Motion of Vehicle	N	Sum	Mean	Percent of N	Percent of Sum
backing up	100	$234,885	$2,348.85	26.46%	11.87%
moving forward	266	$2.E+06	$6,367.68	70.37%	85.58%
Unknown	3	$15,228	$5,076.07	0.79%	0.77%
parked	9	$35,258	$3,917.51	2.38%	1.78%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Total Paid * Possible distracted driving

Total Paid

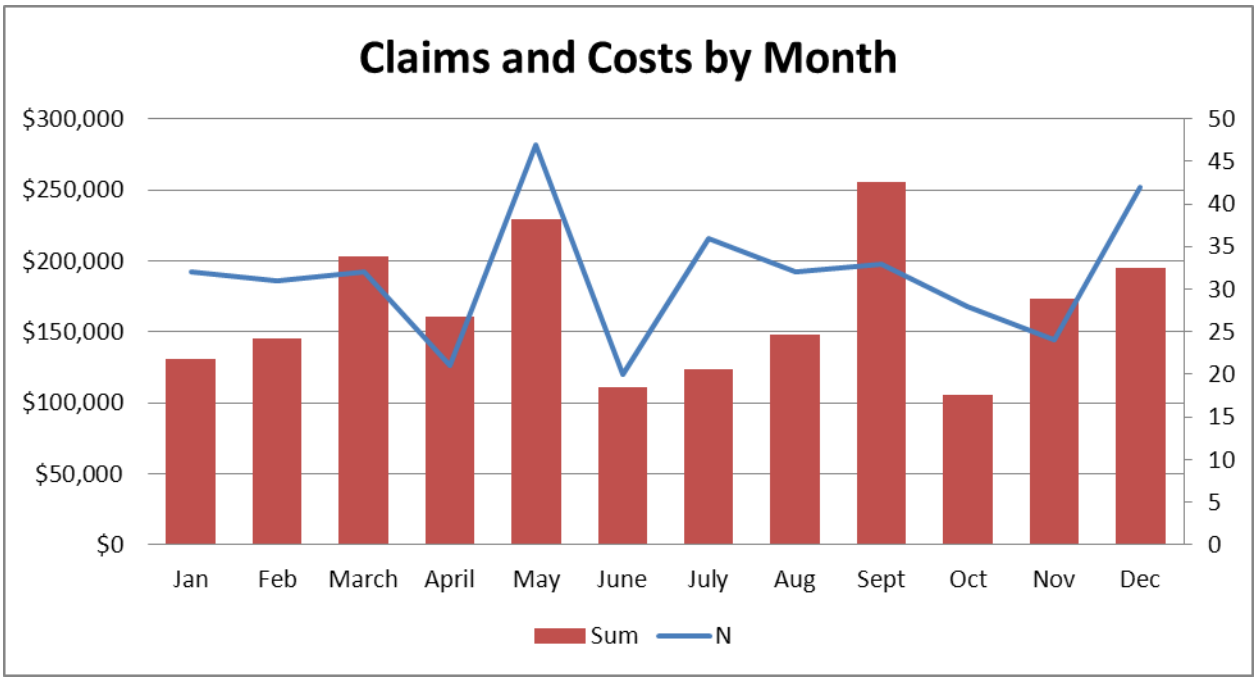
Possible distracted driving	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	12	$23,719	$1,976.62	3.17%	1.20%
no	313	$2.E+06	$5,133.06	82.80%	81.18%
yes	53	$348,806	$6,581.24	14.02%	17.62%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Report

Total Paid

Rural/Urban	N	Sum	Mean	Percent of N	Percent of Sum
Unknown	19	$93,538	$4,923.04	5.03%	4.73%
Rural	125	$623,235	$4,985.88	33.07%	31.49%
Urban	234	$1.E+06	$5,394.87	61.90%	63.78%
Total	378	$2.E+06	$5,235.91	100.00%	100.00%

Appendix B


Claims and Costs by Month
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$250,000
$200,000
$150,000
$100,000
$50,000
$0
50
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40
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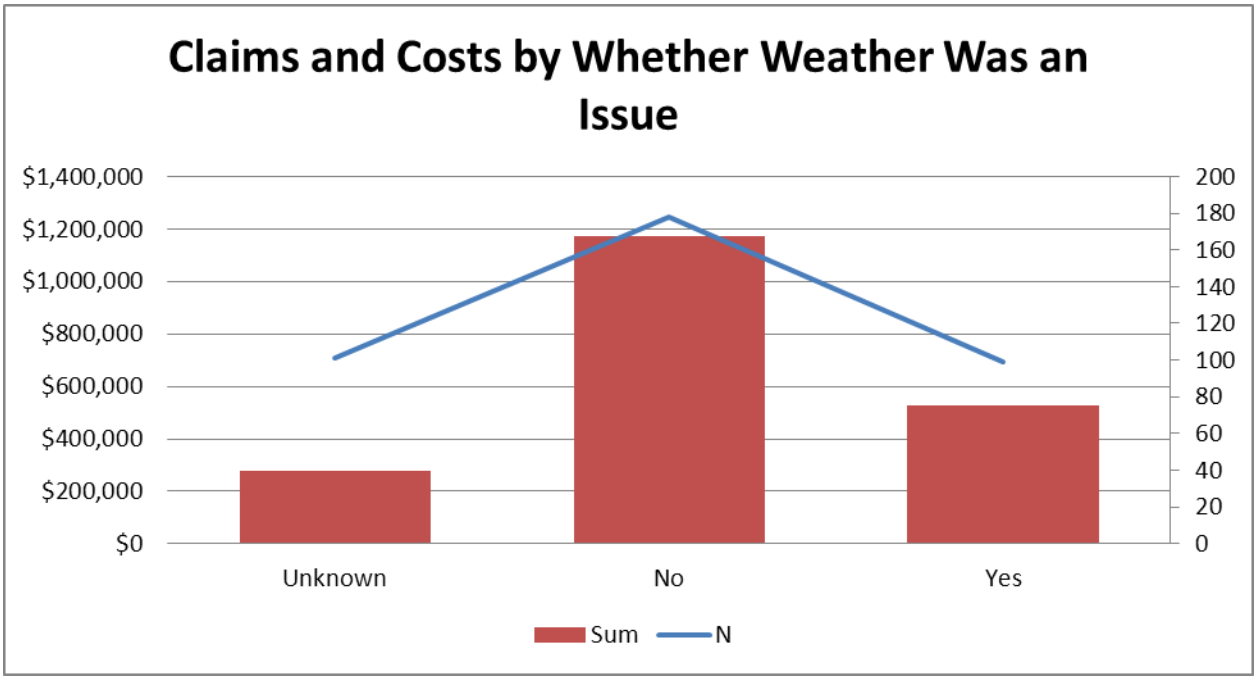
Jan
Feb
March
April
May
June
July
Aug
Sept
Oct
Nov
Dec
Sum
N


Claims and Costs by Whether Weather Was an Issue
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$1,200,000
$1,000,000
$800,000
$600,000
$400,000
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120
100
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40
20
0
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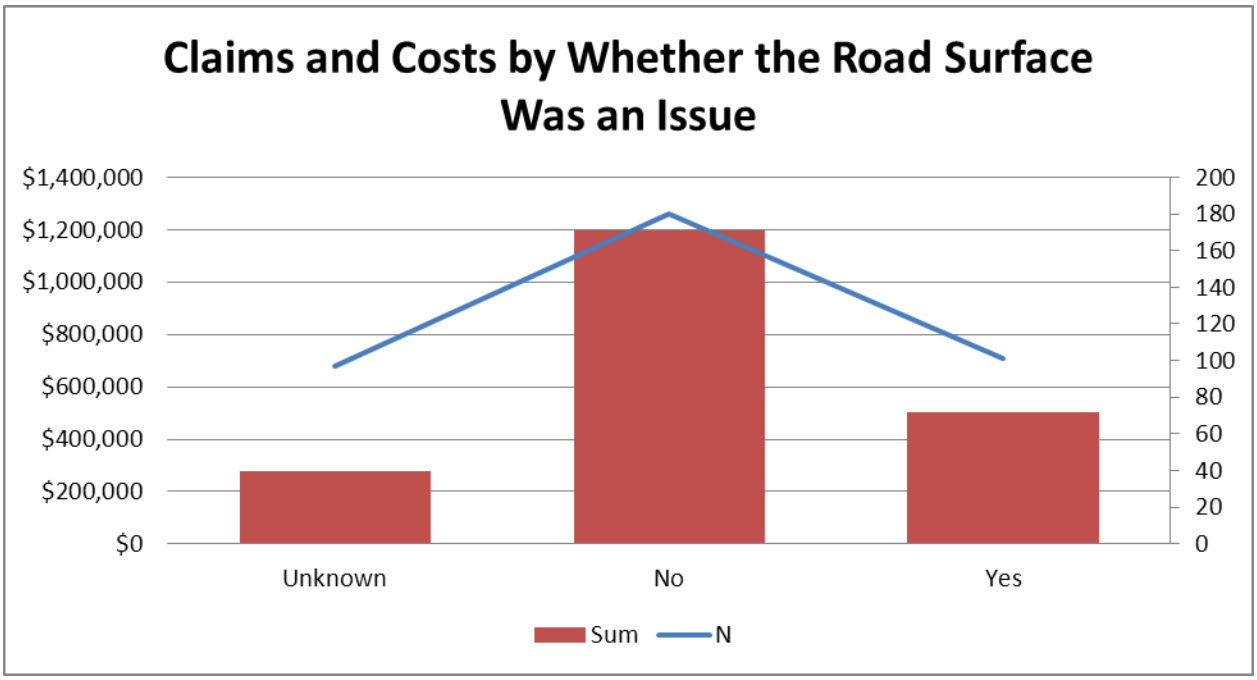
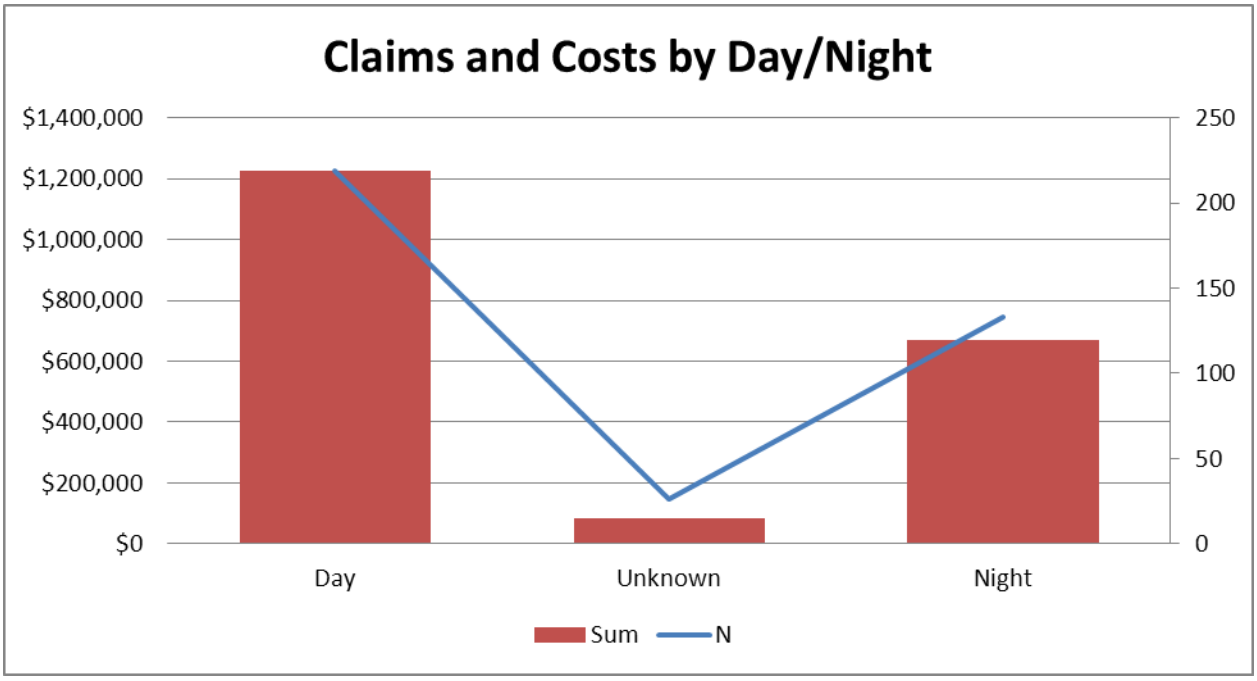
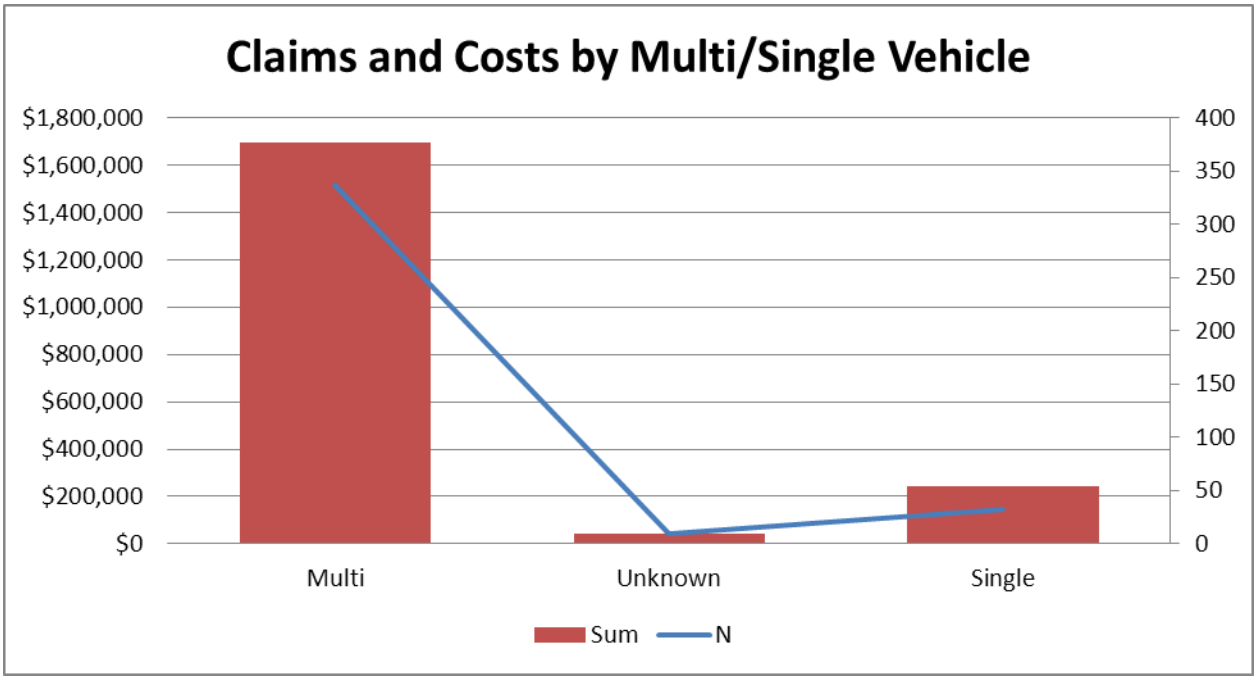
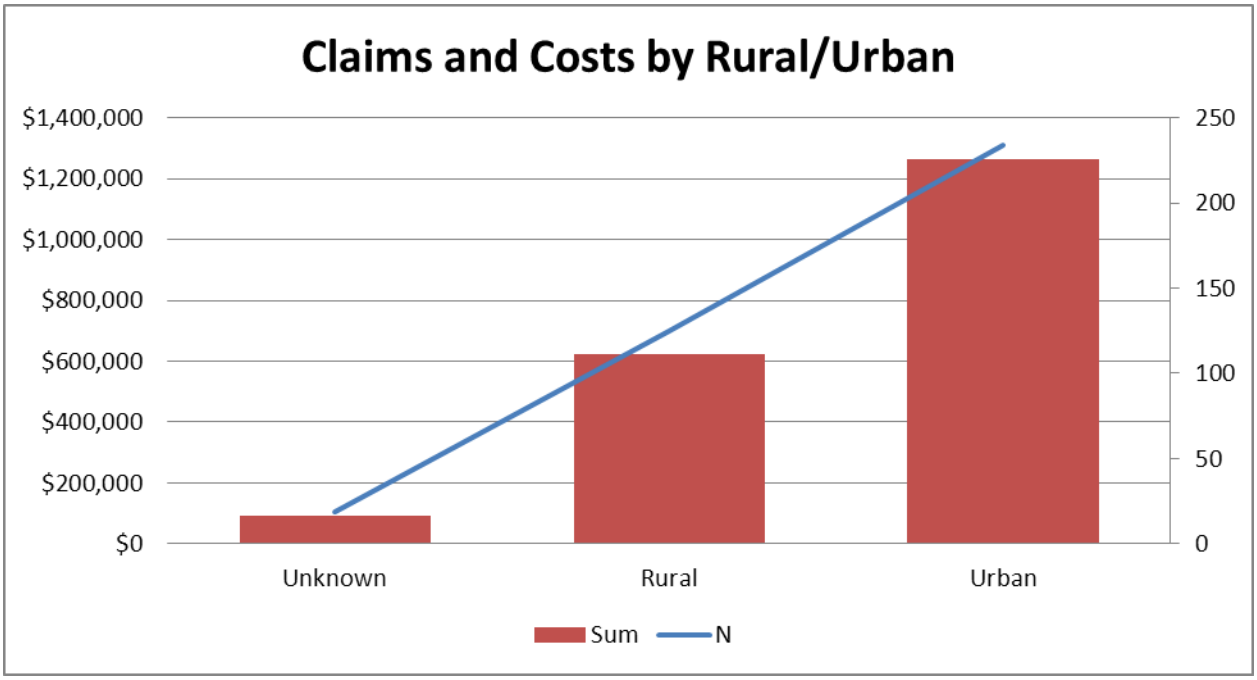
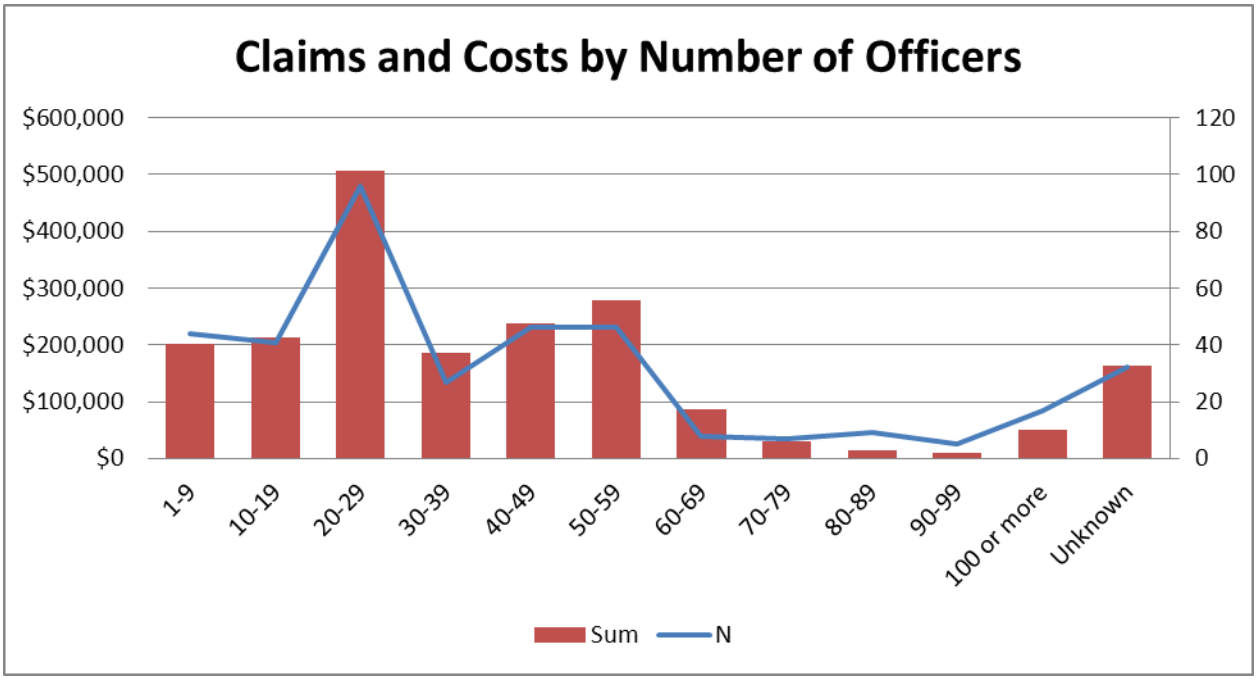
No
Yes
Sum
N

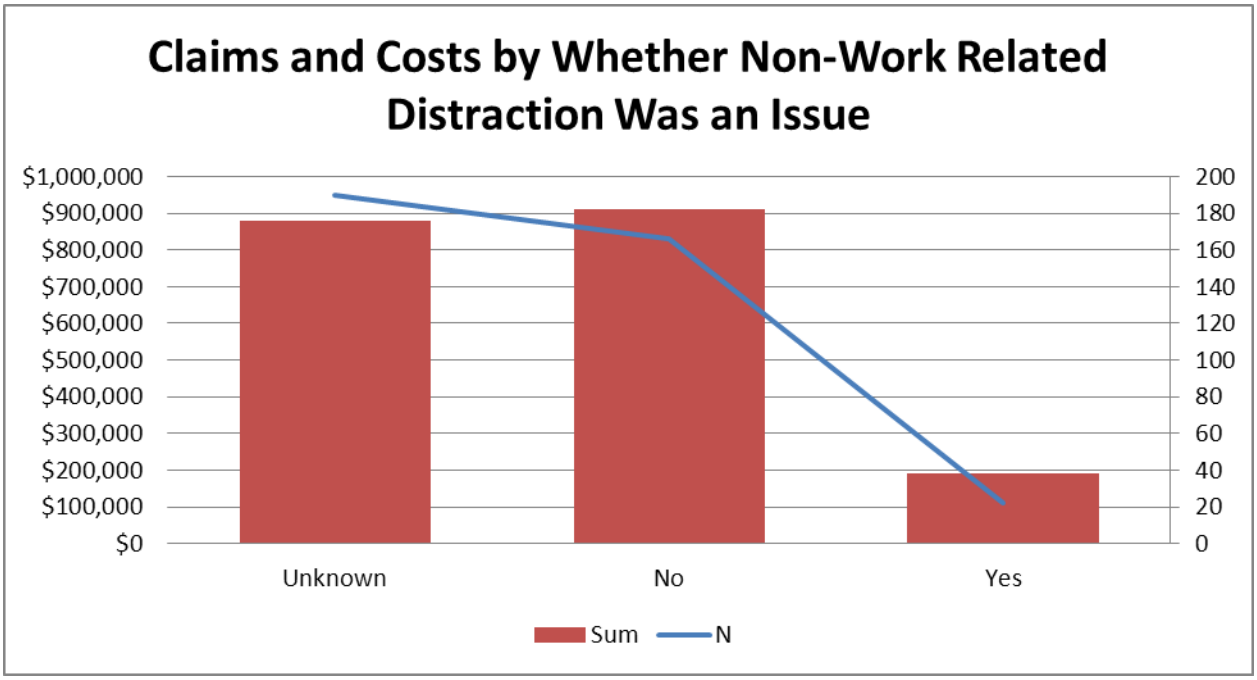

Claims and Costs by Whether the Road Surface Was an Issue
$1,400,000
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$0
200
180
160
140
120
100
80
60
40
20
0
Unknown
No
Yes
Sum
N

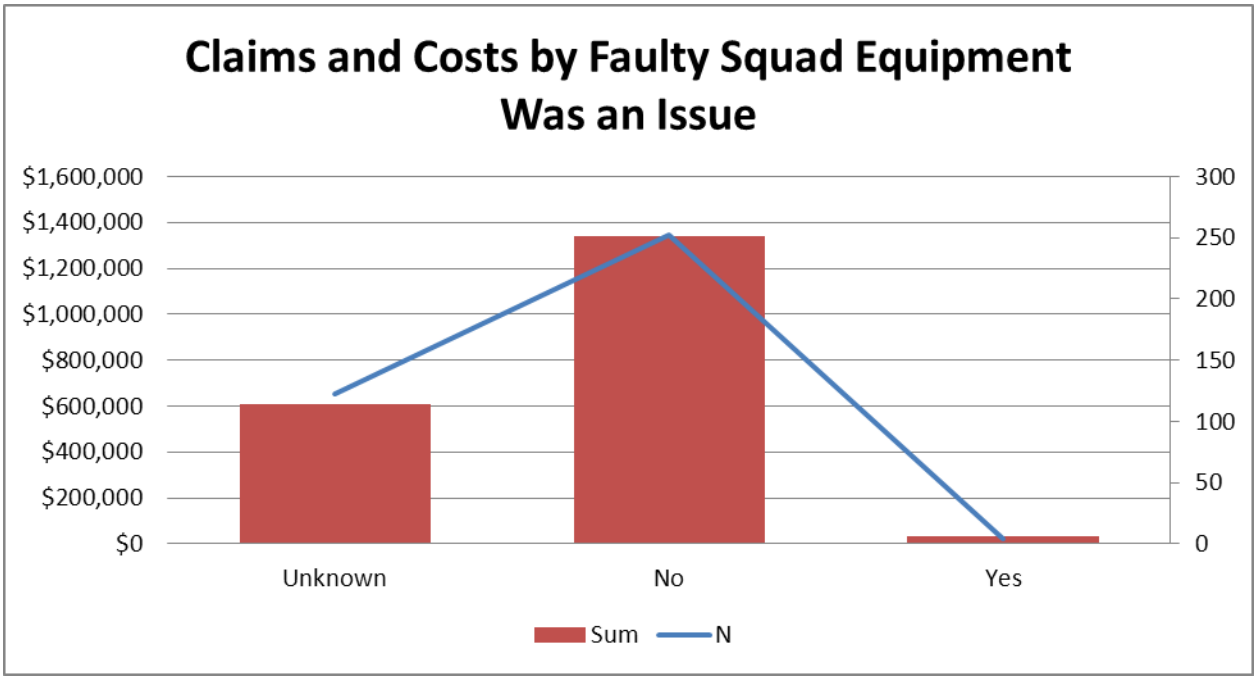

Claims and Costs by Day/Night
$1,400,000
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$0
250
200
150
100
50
0
Day
Unknown
Night
Sum
N


Claims and Costs by Multi/Single Vehicle
$1,800,000
$1,600,000
$1,400,000
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$0
400
350
300
250
200
150
100
50
0
Multi
Unknown
Single
Sum
N


Claims and Costs by Rural/Urban
$1,400,000
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$0
250
200
150
100
50
0
Unknown
Rural
Urban
Sum
N


Claims and Costs by Number of Officers
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$0
120
100
80
60
40
20
0
1-9
10-19
20-29
30-39
40-49
50-59
60-69
70-79
80-89
90-99
100 or more
Unknown
Sum
N


Claims and Costs by Whether Non-Work Related Distraction Was an Issue
$1,000,000
$900,000
$800,000
$700,000
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$0
200
180
160
140
120
100
80
60
40
20
0
Unknown
No
Yes
Sum
N


Claims and Costs by Faulty Squad Equipment Was an Issue
$1,600,000
$1,400,000
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$0
300
250
200
150
100
50
0
Unknown
No
Yes
Sum
N

Appendix C

Total Paid * Motion of Vehicle * Possible distracted driving

Total Paid

Motion of Vehicle	Possible distracted driving	N	Sum	Mean
backing up	unk	4	$6289	$1572.19
	no	90	$212241	$2358.23
	yes	6	$16356	$2725.93
	Total	100	$234885	$2348.85
moving forward	unk	5	$2202	$440.48
	no	214	1000000	$6351.17
	yes	47	$332450	$7073.41
	Total	266	2000000	$6367.68
Unk	unk	3	$15228	$5076.07
	Total	3	$15228	$5076.07
parked	no	9	$35258	$3917.51
	Total	9	$35258	$3917.51
Total	unk	12	$23719	$1976.62
	no	313	2000000	$5133.06
	yes	53	$348806	$6581.24
	Total	378	2000000	$5235.91

Total Paid * Tech Usage * Possible distracted driving

Total Paid

Tech Usage	Possible distracted driving	N	Sum	Mean
Unk	unk	6	$18577	$3096.11
	no	160	$877541	$5484.63
	yes	16	$49761	$3110.04
	Total	182	$945879	$5197.13
No	unk	6	$5143	$857.12
	no	131	$502158	$3833.27
	yes	13	$62246	$4788.13
	Total	150	$569546	$3796.98
Yes	no	22	$226949	########
	yes	24	$236799	$9866.64
	Total	46	$463749	########
Total	Unk	12	$23719	$1976.62
	no	313	2000000	$5133.06
	yes	53	$348806	$6581.24
	Total	378	2000000	$5235.91

Total Paid * Driving Conduct * Possible distracted driving

Total Paid

Driving Conduct	Possible distracted driving	N	Sum	Mean
Code	unk	1	$350	$350.00
	no	68	$653699	$9613.22
	yes	8	$65303	$8162.93
	Total	77	$719352	$9342.24
General	unk	8	$8111	$1013.84
	no	236	$899080	$3809.66
	yes	44	$268735	$6107.62
	Total	288	1000000	$4083.08
Unk	unk	3	$15259	$5086.23
	no	9	$53869	$5985.50
	yes	1	$14767	########
	Total	13	$83895	$6453.49
Total	Unk	12	$23719	$1976.62
	no	313	2000000	$5133.06
	yes	53	$348806	$6581.24
	Total	378	2000000	$5235.91

Appendix D

Law Enforcement Policy Recommendation to Reduce Distracted Driving

WHEREAS, handheld mobile communications technologies have proliferated in recent years and have become common in society; and

WHEREAS, mobile telephones and portable electronic devices require user attention; and

WHEREAS, use of such devices while driving is known to be detrimental to safety; and

WHEREAS, research by the National Highway Traffic Safety Administration (NHTSA) indicates that distracted driving behaviors contributed to more than 5,000 traffic deaths and more than 500,000 injuries in 2008; and

WHEREAS, law enforcement officers are often required to operate a variety of communications and enforcement equipment in the performance of their official duties, and the use of additional handheld devices may contribute to distracted driving by law enforcement officers on patrol; and

WHEREAS, it is incumbent upon law enforcement officers to enhance safety by demonstrating safe driving practices;

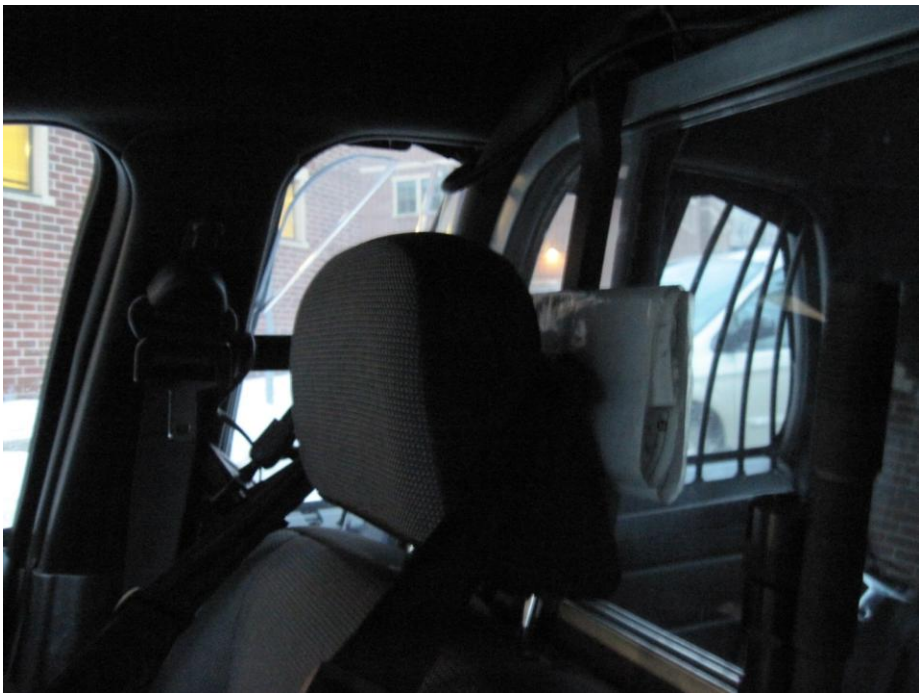
It is hereby **RECOMMENDED** by the Highway Safety Committee that all law enforcement agencies adopt policies to prohibit use of handheld communications and portable electronic devices not necessary to the performance of their official duties while a vehicle is in motion.

Appendix E

Interior/Exterior Views of Squads

Example 1: Drivers seat from outside the squad

Example 2: Drivers seat from outside the squad



Example 3: Front driver’s seat out rear passenger window

Appendix F

Squad Cars Commonly Used by Police Agencies

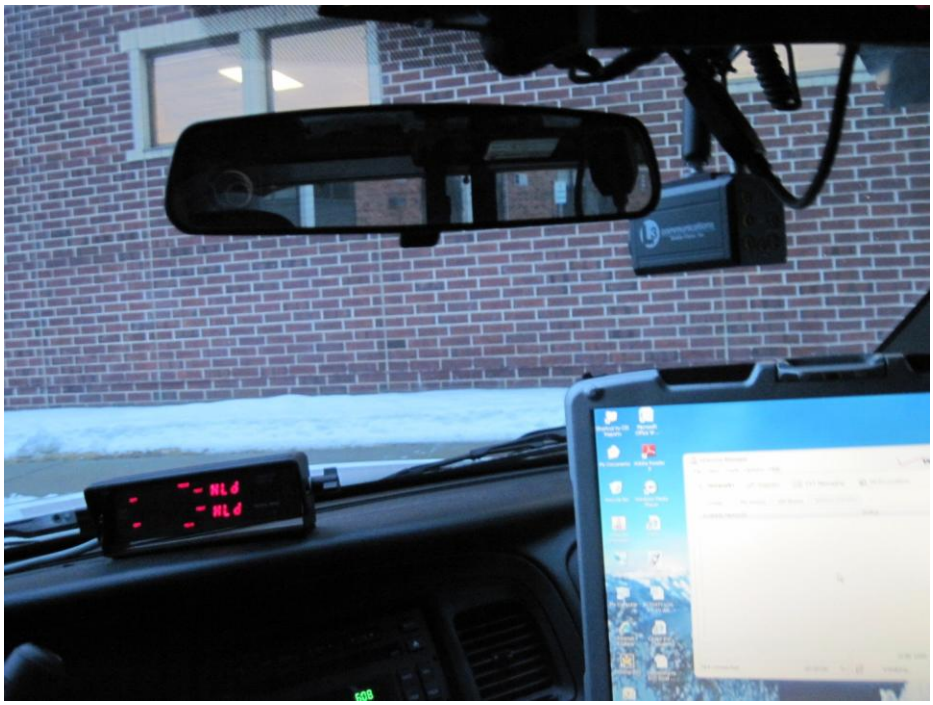
Ford Crown Victoria. Widely used by most agencies in the state. Larger interior with tall, upright windows and windshield.

Dodge Charger. A vehicle being considered as a replacement for the Crown Victoria by many agencies. Smaller windows and more sharply slanted windshield create challenges for an officer's field of vision.

Appendix G

Equipment Placement

Example 1: How equipment affects officer's field of vision



Example 2: How MDC, radar, and camera affect officer's field of vision

Example 3: How MDC affects officer’s field of vision

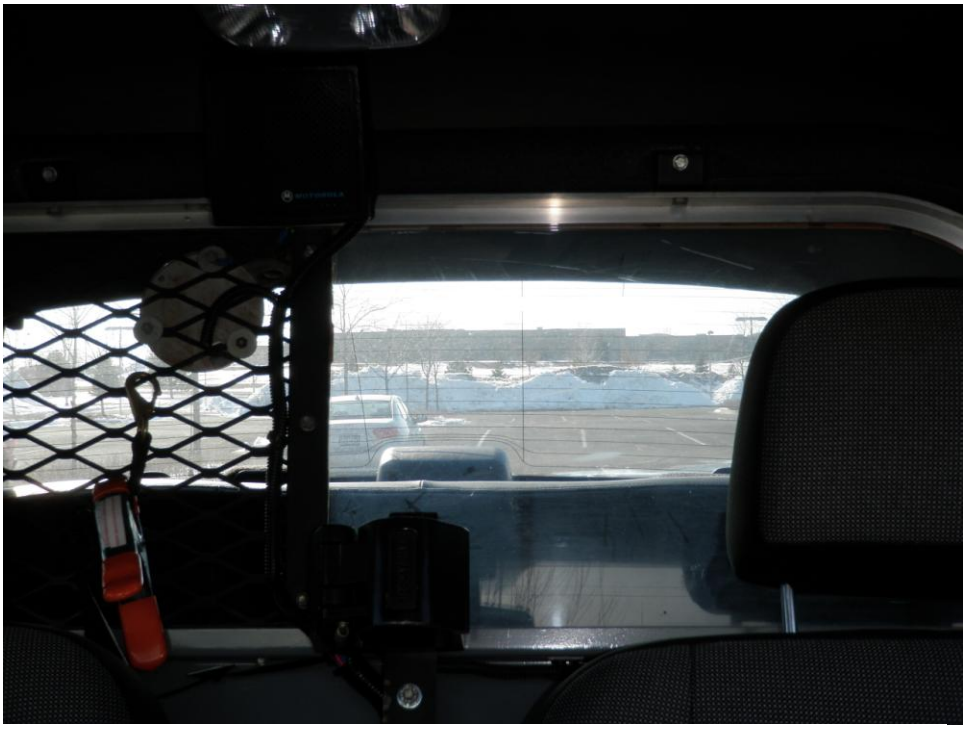
Appendix H

Divider Cages

Example 1: Driver's seat, looking out rear view mirror, split cage

Example 2: Driver's seat, looking out rear view mirror, clear plastic cage

Example 3: Outside front of vehicle, looking towards rear of squad, split cage



Example 4: Inside vehicle, looking towards rear, split cage