Privately-Owned Motor Vehicle Collisions

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: _____
Name

Abstract

The problem was the State of Wyoming had no systematic method to collect data from motor vehicle collisions involving privately-owned vehicles used by fire department members during emergency response. The purpose of the applied research project was to identify methods to collect data from these types of incidents. Descriptive research was selected as the most appropriate research method to address the problem and purpose statements. Three research questions were chosen to analyze the problem. First, how do fire departments in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles used by members of their organization? Second, how do Wyoming law enforcement collision reports record data from these types of incidents? Third, how do Wyoming insurers collect data from these types of incidents? Research procedures included the development of a questionnaire for Wyoming fire chiefs, data queries submitted to the United States Fire Administration, to the Wyoming Traffic Crash Report Database, and to the National Highway Traffic Safety Administration, and interviews with the Wyoming Department of Transportation, the Wyoming State Insurance Department, and the Wyoming Local Government Liability Pool. The results indicated most Wyoming fire departments rely on state law enforcement officials to complete traffic crash reports; that Wyoming law enforcement agencies use a standardized traffic crash report form to collect data for motor vehicle collisions with over $1,000.00 in damage; and that Wyoming insurers rely on affiliate companies to provide actuarial data from motor vehicle collisions. The primary recommendation to address the research project was to modify the Wyoming Investigator's Traffic Crash Report and accompanying training manual for law enforcement officers and to follow up with a proposal for modification submitted to the Model Minimum Uniform Crash Criteria Committee. Finally, an analysis of the impact privately-owned vehicle emergency response collisions has on public safety should then be conducted.

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Privately-Owned Vehicle Motor Vehicle Collisions

Anecdotal evidence suggests public safety may be compromised by firefighters traveling in privately-owned vehicles during emergency response. Wyoming state statutes provide specific privileges for authorized emergency vehicles, including privately-owned vehicles, during emergency response. The impact these state statutes have on public safety is not known because sufficient quantitative data does not exist regarding this problem. The problem is the State of Wyoming has no systematic method to collect data from motor vehicle collisions involving privately-owned vehicles used by fire department members while performing, or traveling to perform, assigned firefighting or emergency service duties. The purpose of this applied research project is to identify methods to collect data from motor vehicle collisions involving privately-owned vehicles used by fire department members while performing, or traveling to perform, assigned firefighting or emergency service duties. Descriptive research has been selected has the most appropriate research method to address the problem and purpose statements. The following research questions have been chosen to conduct the applied research project.

1. How do fire departments in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles used by members of their organization?
2. How do Wyoming law enforcement collision reports collect data from motor vehicle collisions involving privately-owned vehicles used by members of a fire department?
3. How do auto insurance companies in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles used by members of a fire department?

Background and Significance

Motor vehicle collisions account for the second leading cause of firefighter line of duty deaths in the United States (Fahy, 2008). An analysis of 148 firefighter line of duty deaths involving motor vehicle collisions between 1998 and 2007 indicated that one third of the line of duty deaths involved the firefighters' privately-owned vehicles (Fahy, 2008). The impact these privately-owned vehicle emergency response collisions have on public safety is not readily apparent. Reports from the National Highway Traffic Safety Administration (NHTSA) from 1997 through 2006 indicate that motor vehicle collisions involving fire apparatus caused 127 civilian fatalities and 10 firefighter line of duty deaths (Fahy, 2008). Over the same time period, NHTSA reports indicate that fire apparatus motor vehicle collisions killed an additional 21 pedestrians and five bicyclists (Fahy, 2008). Unfortunately, data regarding how many of these civilian fatalities were caused by firefighters responding in privately-owned vehicles does not exist. Furthermore, data specific to privately-owned vehicle emergency response collisions within the state of Wyoming also does not exist.

Eighty-six percent of fire departments in America are volunteer fire departments according to the U.S. Department of State eJournal USA document, The Spirit of Volunteerism (Markley, 2012). This figure is accurately reflected in Wyoming where approximately eight-five percent of the fire departments are volunteer organizations. The remaining fifteen percent of the Wyoming fire departments are career fire departments, industrial fire brigades, and state or federal fire departments (Firescope Mid-America, 2005). When an emergency incident occurs in Wyoming, many volunteer fire departments allow firefighters to respond either to the fire station, or directly to the incident in their privately-owned vehicles. These types of emergency responses

may pose a significant risk to both the general public in Wyoming as well as to the volunteer firefighters who are responding.

Wyoming state statutes specify that when an authorized emergency vehicle is responding to an emergency call or fire alarm, the driver may proceed past stop signals and signs, exceed posted speed limits, disregard specified traffic movement direction, and park the emergency vehicle irrespective of posted regulations (Uniform Act Regulating Traffic on Highways, 2012). The definition of an authorized emergency vehicle specifically includes privately-owned vehicles used by members of a fire department while performing assigned emergency service duties. However, the vehicle must be authorized in writing by the governing body, equipped with a flashing red or amber light, and equipped with a fire department organization marker or tag to be officially recognized as an authorized emergency vehicle (Uniform Act Regulating Traffic on Highways, 2012). These exemptions have been provided for authorized emergency vehicles in an effort to ensure timely responses during exigent circumstances. The significance of these exemptions regarding public safety has not been fully analyzed. If sufficient data were created, a detailed analysis of the impact privately-owned vehicle emergency response collisions have on public safety could be conducted. Future potential amendments to state statutes could prove necessary to improve public safety while still ensuring timely emergency response.

In March of 1994, a sixteen-year-old Wyoming girl was struck and killed while she was making a left-hand turn through a green light intersection. A privately-owned vehicle was responding to investigate a reported smoke incident and drove through the opposing red light at a controlled intersection. The privately-owned responding vehicle struck the sixteen-year-old's vehicle broadside as it entered the intersection. The driver of the privately-owned responding vehicle was the sixteen-year-old girl's father, who was a volunteer firefighter for the local fire

department (Pieper, Stahla, & Depue, 1994). This anecdotal account serves to illustrate the impact motor vehicle collisions involving privately-owned vehicles used during emergency response can have on not only the responding firefighter, but also on the firefighter's family, the general public, and the entire community. There is currently no method to capture data from privately-owned vehicle emergency response collisions and analyze the extent of how these collisions may affect public safety.

The collection of data related to privately-owned vehicle emergency response collisions is an important topic of research for the Wyoming State Fire Marshal's Office (WSFMO) because the agency is responsible to implement fire safety programs and minimize loss of life and property for the residents of the state of Wyoming. Furthermore the WSFMO is specifically directed to conduct a critical analysis and evaluation of fire loss statistics to determine problems and solutions (Wyoming Department of Fire Prevention and Electrical Safety, 2012). The agency strategic plan specifies that the WSFMO shall effectively respond to the needs of residents and guests of the state of Wyoming (Wyoming Department of Fire Prevention and Electrical Safety, 2007). The WSFMO is uniquely suited to conduct this research because the agency maintains close contact with all the fire and emergency response agencies throughout Wyoming. Additionally, the WSFMO is the only agency with specific statewide jurisdictional fire related responsibilities.

The National Fire Academy Executive Analysis of Community Risk Reduction course focuses on the value of community risk reduction efforts (United States Fire Administration - National Fire Academy, n.d.). The topic of this research paper is directly related to the focus of the Executive Analysis of Community Risk Reduction course because the research is intended to identify methods to collect data regarding privately-owned vehicle emergency response

collisions. The data from these types of motor vehicle collisions will eventually lead to efforts to improve public safety and reduce privately-owned vehicle emergency response collisions.

The National Fire Academy's Executive Fire Officer Program, specifies that each applied research paper must be related to at least one of the United States Fire Administration (USFA) strategic goals (United States Fire Administration - National Fire Academy, 2012). The topic of this applied research is related to the first USFA strategic goal, to reduce risk at a local level through prevention and mitigation, because the research will lead to efforts to improve public safety and reduce privately-owned vehicle emergency response collisions (United States Fire Administration, 2010).

Literature Review

In an effort to review the findings of others who have published research related to privately-owned motor vehicle collisions, an extensive literature review was conducted using the Wyoming Library Database, Gale's Literature Resource Center, and the National Fire Academy Learning Resource Center. Literature related to each research question was selected and analyzed. Sources were selected based on relevancy and recency for each research question.

The first research question, regarding how fire departments in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles used by members of the organization was analyzed as part of the literature review. To understand the broad implications of the theory of data collection, The Practice of Social Research, by Dr. Earl Babbie was selected and reviewed. This text focused on how research is conducted by social scientists. The text suggests that data collection and management is absolutely critical in the field of social research. Without adequate data collection procedures, it would be impossible to analyze the impact of

various societal issues (Babbie, 2009). The Practice of Social Research emphasizes the importance of quantitative and qualitative research methods to collect and analyze data.

To gain an understanding of data collection for motor vehicle collisions involving privately-owned vehicles by non-fire related entities, the scope of the literature review was narrowed to identify relevant information from the United States Postal Service (USPS). The USPS Highway Contractor Safety Handbook PO-515 was selected and reviewed as part of this research. This handbook was designed as a vehicle safety reference for postal service employees regarding policies, practices, and procedures (United States Postal Service, 2010). The USPS frequently employs contract delivery services using privately-owned vehicles to complete rural routes. These contract delivery service routes pose special safety problems that are relevant to the topic of research. USPS statistics indicate that rural roads are the most hazardous to drive on. More than two-thirds of the annual motor vehicle collisions occur on rural roads even though less than one-half of the annual miles driven are on rural roads (United States Postal Service, 2010). The USPS has developed a rigorous motor vehicle safety program and provided the USPS Highway Contractor Safety Handbook PO-515 as a guideline to help eliminate unnecessary motor vehicle collisions. Furthermore, the USPS has developed an internal accident report form, PS Form 1769/301, to report and fully analyze data from motor vehicle collisions (United States Postal Service, 2012). The data collected from this accident report form is an essential component for the USPS to conduct a thorough accident analysis and develop procedures to mitigate the identified hazards.

To gain a more thorough understanding of motor vehicle collisions involving privately-owned vehicles by non-fire related entities, the U.S. Army Safety Center publication Privately-Owned Vehicle Risk Management Toolbox for Commanders, Leaders, and Non-Commissioned

Officers was reviewed. This guiding text provides military standard operating procedures, best practice examples, and lessons learned that can be used when developing a privately-owned vehicle safety program (U.S. Army Safety Center, 2006). All Army personnel are required to complete the Army Traffic Safety Program, which is comprised of five instructor led classes and one online accident avoidance course. Each course builds upon the previous module to reinforce expected behaviors. The first course focuses on establishing a positive attitude toward driving, individual responsibility, and correct response to routine and emergency driving situations. The second course is designed for personnel who are assigned to a new installation for more than 30 days. This course focuses on local driving hazards personnel may encounter while stationed at the installation. The third course is designed as an intermediate traffic safety training course and reinforces previously learned information. The fourth course is designed as advanced training for personnel twelve to eighteen months after receiving their intermediate training. This course is designed to provide accident prevention training based on current trends. The final course is designed for all newly assigned Army supervisors to provide information regarding the responsibilities and the expectations of the Army Traffic Safety Program (U.S. Army Safety Center, 2006).

The Privately-Owned Vehicle Risk Management Toolbox for Commanders, Leaders, and Non-Commissioned Officers contains policies for accident/incident after-action-reviews, commander's assessment instructions for incidents, and reporting forms for privately-owned vehicle fatalities (U.S. Army Safety Center, 2006). This resource was extremely useful as part of the applied research because of the structured format and applicability towards the topic of research.

The literature review was again narrowed in scope to identify relevant information from fire related entities. The National Institute for Occupational Safety and Health (NIOSH) is the federal agency responsible for conducting research and making recommendations for the

prevention of work-related injury and illness (National Institute for Occupational Safety and Health, 2011). NIOSH has developed the Fire Fighter Fatality Investigation and Prevention Program. NIOSH conducts independent investigations of fire fighter line of duty deaths to determine factors that cause or contribute to fire fighter deaths suffered in the line of duty. A report of each investigation is developed that identifies causal factors that contributed to the line of duty death and makes recommendations to prevent future similar incidents. NIOSH investigators conduct interviews and review available records to develop the reports and provide a context for the agency's recommendations.

A query for privately-owned motor vehicle collision fatalities was conducted using the online investigative report tool on the NIOSH website. Eight different NIOSH firefighter fatality investigation reports were found to have been completed. Each of the eight online reports involving privately-owned vehicles listed specific recommendations to minimize risk of similar incidents. These recommendations include providing program oversight, vehicle inspection procedures, the development of standard operating guidelines, the explicitly required use of seatbelts, requirements to ensure state motor vehicle codes are followed, training programs for all new-member orientations and driver training sessions, and requirements for annual defensive driver training programs (National Institute for Occupational Safety and Health, 2012).

The second research question regarding how Wyoming law enforcement collision reports collect data from motor vehicle collisions involving privately-owned vehicles used by members of a fire department was also analyzed as part of the literature review. In an effort to research the general implications of motor vehicle collision report forms, the Model Minimum Uniform Crash Criteria (MMUCC) was reviewed. The MMUCC is a guiding document published as a collaborative effort between the Governors Highway Safety Association, the Federal Highway

Administration, the Federal Motor Carrier Safety Administration, and the National Highway Traffic Safety Administration (Governors Highway Safety Association, 2012). The MMUCC presents a model format for completing standardized motor vehicle collision reports on a national level. The MMUCC is a minimum data set requirement. States may choose to collect additional motor vehicle crash related data elements if the data is deemed necessary to enhance decision-making. States are encouraged to adopt the MMUCC in an effort to generate uniform data which will lead to improvements in public safety. The MMUCC recommends law enforcement personnel at incidents should collect 77 specific data elements for the motor vehicle collision report. An additional 23 data element should also be obtained through linkage with state data file systems (Governors Highway Safety Association, 2012).

Specifically, section V.11 of the MMUCC is a data element that indicates the operation of motor vehicles such as a police vehicles, fire trucks, or ambulances that are legally authorized by a government authority to respond to emergencies. Selectable options for this data element include:

- Not applicable
- Non-Emergency, Non-Transport
- Non-Emergency Transport
- Emergency Operation, Emergency Warning Equipment Not in Use
- Emergency Operation, Emergency Warning Equipment in Use
- Unknown

The MMUCC guidance for this data element explains driver behavior related to emergency vehicle response is becoming national problem. The intent of the emergency response data element is to gather information that will eventually lead to efforts to reduce the

number of motor vehicle crashes involving emergency vehicle response (Governors Highway Safety Association, 2012).

In an effort to understand applicable standards related to the second research question, the American National Standard, ANSI D16.1-2007, Manual on Classification of Motor Vehicle Traffic Accidents, 7th Edition was reviewed. The Manual on Classification of Motor Vehicle Traffic Accidents (MCMVTA) is intended to enhance consistency of motor vehicle collision statistics developed by Federal, state, and local jurisdictions. The MCMVTA primarily provides statistical classifications, common language, and terminology guidelines for motor vehicle collision reports for nationwide use. The manual is not intended as a requirement for accident reporting or investigations. The manual specifies that reporting requirements should be established by state law or city ordinance (American National Standards Institute, 2007).

The literature review was narrowed in scope to identify how Wyoming law enforcement collision reports collect data from motor vehicle collisions involving privately-owned vehicles used by members of a fire department. The Wyoming Investigator's Traffic Crash Reporting Manual – January 2008 Revision (WITCRM) was selected and reviewed as part of this research. This WITCRM is intended to provide standardized training for law enforcement officers and traffic collision investigators to document and record motor vehicle collisions in a consistent and systematic format. The WITCRM provides two specific reasons to properly document and report motor vehicle collisions: "to provide detail on individual traffic crashes and to provide information for analysis and evaluation on a broad scale" (Wyoming Department of Transportation, 2008, p. I). The Wyoming Traffic Records Coordinating Committee utilized the Model Minimum Uniform Crash Criteria as a guideline to develop the WITCRM.

Section 115, the Emergency Vehicle Use section of the WITCRM, provides guidance for completing a crash report involving emergency vehicles. This data element indicates that an official motor vehicle has been involved in a crash during emergency response. Three options are selectable under this heading: yes, no, or unknown (Wyoming Department of Transportation, 2008). Section 116, the Emergency Equipment Activated section, provides additional guidance for completing a crash report involving the emergency vehicle. This data element indicates whether the emergency equipment for the vehicle was actuated at the time of the incident or not. Again, three options are selectable under this heading: yes, no, or unknown. Finally, Section 117, the Special Function of MV in Transport section, indicates the type of special function being served by this vehicle regardless of whether the function is marked on the vehicle (Wyoming Department of Transportation, 2008). Fourteen selectable options are available under this section:

1. None
2. Police
3. Ambulance/EMS
4. Fire Truck
5. Military
6. Snow Plow
7. Tow Truck
8. MV used as a School Bus
9. MV used as Other Bus
10. Construction Equipment
11. Farm Equipment

12. Taxi

13. Train

14. Unknown

The appendix of the WITCRM explains the fire truck coding element refers to a vehicle that is owned by any local, county, or state fire protection agency. The vehicles are presumed to be in special use at all times (Wyoming Department of Transportation, 2008). No further information is provided to assist in determining if the vehicle is a privately-owned authorized emergency vehicle responding to an emergency incident.

Finally, the third research question regarding how auto insurance companies in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles used by members of a fire department was analyzed as part of the literature review as well. To address this research question, the literature review sought to identify how insurance companies evaluate risk. The literature review revealed that insurance companies quantify risk with data provided by industry professionals called actuaries. Actuaries use data to calculate risk and make recommendations regarding underwriting decisions. For example, the Insurance Services Office (ISO) provides actuarial services for insurers in an effort to enhance decision making and boost productivity and profitability (Insurance Services Office website, n.d.). The ISO provides information regarding premium trends, catastrophe losses, risk classifications, expenses, and residual markets. ISO provides compilations and data analyses for aggregated data from a broad base of insurers to ensure accurate and timely information (Insurance Services Office website, n.d.). The insurer can then use this information to make informed decisions regarding underwriting policies for general liability and many other forms of insurance that may be

necessary to provide coverage for motor vehicle collisions involving privately-owned vehicles used by members of a fire department.

The literature review for the third research question was narrowed in scope to identify specific research from insurance related organizations regarding privately-owned vehicle response. The Volunteer Firemen's Insurance Services (VFIS) organization provides specialized insurance coverage and risk management services for emergency service organizations (Volunteer Firemen's Insurance Services website, n.d.). The Risk Control Services Department of VFIS evaluates risk assumed by emergency service organizations. The Education and Training Services Department of VFIS then produces training programs to mitigate and implement the risk management solutions identified by the Risk Control Services Department. The Privately-Owned Vehicle Operations – Answering the Call Safely training program was created by the VFIS Education and Training Services Department to address the risks associated with volunteer firefighters driving privately-owned vehicles during emergency response (Everyone Goes Home website, 2006). VFIS has identified six common factors related to emergency response collisions involving privately-owned vehicles: driver error, excessive relative speed, lack of seatbelt use, rollovers, intersections, and alcohol use (Glatfelter Insurance Group Risk Control Services Department, 2011). To address these common factors, VFIS recommends emergency service organizations reduce their exposure to privately-owned vehicle response risks by ensuring responders have a valid driver's license, complete a background check, carry personal auto liability insurance, follow state and federal driving regulations and laws, follow departmental standard operating procedures regarding POV response, and complete an annual defensive driver training course (Glatfelter Insurance Group Risk Control Services Department, 2011).

Procedures

Three separate research questions were developed to analyze methods to collect data from motor vehicle collisions involving privately-owned vehicles used by fire department members while performing, or traveling to perform, assigned firefighting or emergency service duties. The research procedures conducted for each research question were selected to ensure thorough analysis and accurate results. Each research question was individually addressed by following the procedures described below.

The first research question regarding how fire departments in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles used by members of their organization was researched by developing an online questionnaire (See Appendix A). The questionnaire was not intended to be a statistically valid survey instrument. The objective of the questionnaire was simply to collect relevant information from Wyoming fire departments regarding privately-owned vehicle emergency response. The questionnaire was created using Google Documents to develop a user-friendly, form-fillable, online questionnaire. On May 11, 2012, an email was sent to 185 fire chiefs, past fire chiefs, and key fire service leaders within the state of Wyoming, asking each recipient to participate in the online questionnaire. Participants were ensured the data collected would be kept confidential and would only be used for informational analysis. Responses were provided by 38 of the 185 participants for a 20% response rate.

The questionnaire assumed certain limitations. Most importantly, the primary limitation was the dissemination method of the questionnaire. Using contact information from the Wyoming Fire Service Directory, 185 participants, representing all of the listed Wyoming fire departments were selected to participate in the questionnaire (Wyoming Department of Fire

Prevention and Electrical Safety, 2012). However, only fire chiefs, past fire chiefs, and key fire service leaders were selected from the Fire Service Directory to develop the list of participants, which limited the available responses. Furthermore, only participants with email and internet access were capable of participating in the questionnaire. The results from the questionnaire also assume the respondents were being truthful and accurate in their responses. To avoid similar limitations in the future, it would improve the accuracy of the questionnaire if multiple dissemination methods were used to distribute the questionnaire and if more participants were selected to complete the questionnaire.

In an effort to more thoroughly analyze the first research question, additional research was conducted by contacting the United States Fire Administration - National Fire Data Center. The National Fire Data Center coordinates and manages data about fire and other emergency incidents involving fire department response, including the USFA's Firefighter Fatality Reporting Program (United States Fire Administration, 2012). To conduct the necessary research, Mark A. Whitney, Fire Programs Specialist for the National Fire Data Center was contacted and asked to provide raw data for all motor vehicle collision related firefighter fatalities from 1990 through 2012. Mr. Whitney conducted a query using the USFA Firefighter Fatality Database, which contained detailed information for 2,616 firefighter fatalities as of January 2012. A specific sub-classification of information regarding privately-owned vehicles was included in the data query. Mr. Whitney provided the requested data as a Microsoft Access database file in an email attachment on March 01, 2012 (M. A. Whitney, personal communication, March 01, 2012).

A significant limitation of this research method was the limitation of the data, which only included firefighter fatalities submitted to the USFA. No data was available to indicate the total

of non-fire personnel fatalities or injuries or the total number of motor vehicle collisions that have occurred. Furthermore, Mr. Whitney indicated there are gaps in the database from 1990 – 2000 due to changes in reporting and record keeping accuracy. To avoid similar limitations for future research, additional sources of data should be used to maximize accuracy.

The second research question regarding how Wyoming law enforcement collision reports collect data from motor vehicle collisions involving privately-owned vehicles was researched by conducting a telephone interview with Matt Carlson, Highway Safety Engineer Supervisor with the Wyoming Department of Transportation (M. Carlson, personal communication, April 03, 2012). Mr. Carslon was selected to be interviewed because of his role as the supervisor of the Wyoming Department of Transportation (WYDOT) Highway Safety Office. It is Mr. Carlson's responsibility to oversee the Wyoming Traffic Records Coordinating Committee and the Wyoming Investigator's Traffic Crash Reporting Manual. As part of the interview, Mr. Carlson was asked questions about data collection for motor vehicle collisions, notification of collisions to the state level, how state, county, and local law enforcement officers maintain records and reports for motor vehicle collisions, and how to make changes to the Wyoming Investigator's Traffic Crash Report.

During the interview, Mr. Carlson explained that he would ask Joe McCarthy, Highway Safety Engineer, with the Wyoming Department of Transportation to access the Wyoming Traffic Crash Report Database and submit a query for fire related motor vehicle collisions in Wyoming. On April 03, 2012, Mr. McCarthy emailed an attachment with a database structured query language code for the fire query he had run using the Wyoming Traffic Crash Report Database (J. McCarthy, personal communication, April 03, 2012). Mr. McCarthy explained that he had queried the database using the search term fire. All motor vehicle collisions in the

database that involved a fire department apparatus appeared in the report provided. Mr. McCarthy explained that the data would be limited though. He did not believe the query would capture information specific to privately-owned vehicles because the owner of the privately-owned vehicle would most likely be identified by the reporting law enforcement officer as an individual rather than as a fire department organization.

Again, a significant limitation of this research method was the limitation of the data, which included motor vehicle collisions involving fire apparatus, but did not necessarily include collisions involving privately-owned vehicles being used during emergency response. However, this shortcoming does serve to illustrate the problem statement identified as part of this research project.

In an effort to more thoroughly analyze the second research question, additional research was conducted by contacting the National Highway Traffic Safety Administration. An online request for information was submitted using the National Highway Traffic Safety Administration website on June 03, 2012. In response to the request for information, Lyn Cianflocco, Information Management Specialist with the National Highway Traffic Safety Administration (NHTSA) - National Center for Statistics & Analysis - Data Reporting & Information Division provided three separate Microsoft Excel database spreadsheets for motor vehicle collisions that involved emergency fire apparatus (L. Cianflocco, personal communication, July 15, 2012).

The first Microsoft Excel database spreadsheet was titled: Emergency Vehicles Involved in Fatal Traffic Crashes by Emergency Vehicle Type, Crash Year, Crash Type, and Emergency Use Fatality Analysis Reporting System (FARS) 1982-2010. The second Microsoft Excel database spreadsheet was titled: Persons Killed in Crashes Involving Emergency Vehicles by Emergency Vehicle Type, Person Type, Crash Type, and Emergency Use Fatality Analysis

Reporting System (FARS) 1982-2010. The third Microsoft Excel database spreadsheet was titled: Fatal Crashes Involving Emergency Vehicles by Emergency Vehicle Type, Crash Year, Crash Type, and Emergency Use Fatality Analysis Reporting System (FARS) 1982-2010.

A follow-up email was submitted to Ms. Cianflocco on July 19, 2012 asking for clarification on the data she had provided. The follow-up email asked Ms. Cianflocco questions about the differences between the reports she provided, how privately-owned vehicles are identified in the crash reports, how to estimate the total number of collisions rather than just collisions involving fatalities, whether the data can be narrowed in scope to only include Wyoming, and how the NHTSA obtained the data from the report she provided.

A limitation of this research method was discovered when Ms. Cianflocco indicated that if a person is driving a privately-owned vehicle, the NHTSA has no way to determine if the person was responding to an emergency incident. Ms. Cianflocco also indicated a further limitation of the data when she explained the data used by the NHTSA comes from the state of Wyoming. If the data collected by Wyoming is not complete or accurate, so too then would be the data provided by the NHTSA.

The third research question regarding how auto insurance companies in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles was researched by contacting the Wyoming State Insurance Department. A telephone interview was conducted with Kathy Misener, Policy and Planning Analyst for the Wyoming State Insurance Department (K. Misener, personal communication, March 29, 2012). Ms. Misener was selected to be interviewed because she is a Wyoming insurance industry expert with knowledge regarding data collection for insurance companies. As part of the interview, Ms. Misener was asked questions regarding data collection procedures for Wyoming insurance companies, database management,

information sharing amongst insurers, where to obtain insurance data regarding motor vehicle collisions, and insurance coverage for privately-owned vehicles while responding to emergency incidents.

Additional efforts to analyze the third research question were focused on the Wyoming Local Government Liability Pool (LGLP). The LGLP is a self-insurance risk retention pool created by local governments within Wyoming to provide liability coverage for participating entities. The LGLP provides general liability for over 500 cities, towns, counties, boards, and special tax districts within Wyoming (Local Government Liability Pool, n.d.). An interview was conducted with Mark Pring, Executive Director for LGLP (M. Pring, personal communication, October 01, 2012). Mr. Pring was selected to be interviewed because of his unique insight and knowledge regarding insurance coverage for the numerous governmental agencies throughout Wyoming. Mr. Pring answered questions about how insurance coverage would be provided in the event of an emergency response collision involving a firefighter responding in a privately-owned vehicle. Mr. Pring also answered questions about how data from such incidents would be collected and used.

Further efforts to research the how auto insurance companies in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles during emergency response included efforts to contact the Volunteer Firemen's Insurance Services (VFIS), the Insurance Services Office (ISO) - Actuarial Services Department, the Insurance Institute for Highway Safety (IIHS), and the Highway Loss Data Institute (HLDI). Unfortunately, each of these agencies explained they could not provide assistance regarding the matter.

The research procedures limitations for the third research question were related to the lack of data from Wyoming insurers. Many insurance organizations and affiliates were

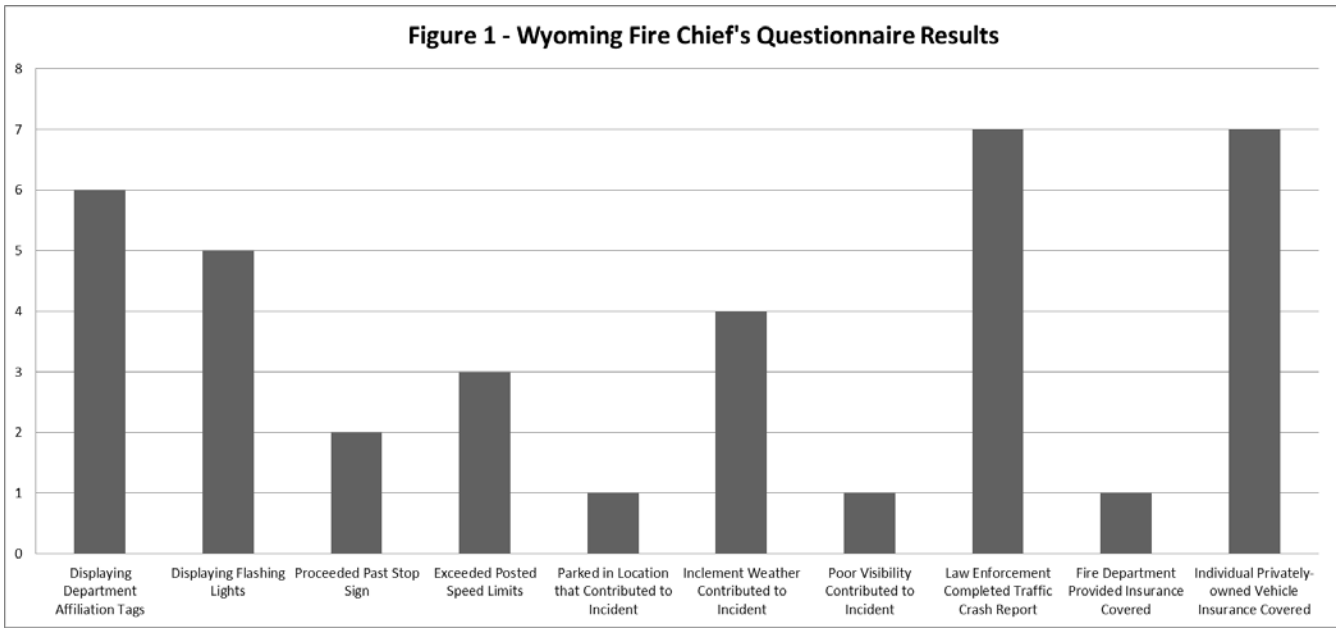
contacted regarding this research. Unfortunately, most of these organizations were not able to provide any insight into the problem due to lack of specific data regarding the issue. Most insurers contacted explained that there simply are not enough records or claims from these types of incidents in Wyoming to generate sufficient analysis. Furthermore, the data that is collected is usually only related to emergency apparatus owned by the fire department, rather than by the individual firefighter's privately-owned vehicles. Future efforts to address this type of research question should focus on actuarial data rather than information provided by individual insurers. Future efforts should also focus on national data rather than a narrowly defined scope of just Wyoming insurers to ensure statistical validity.

Results

The results from the first research question regarding how Wyoming fire departments collect data from privately-owned vehicle emergency response collisions indicate that most departments rely on traffic crash reports completed by local, county, and state law enforcement officials. The first research question was researched by creating and distributing an online questionnaire to fire chiefs, past chiefs, and key fire service leaders within Wyoming.

The results from the online questionnaire indicated that privately-owned vehicle emergency response collisions have occurred within Wyoming. Seven of the 38 respondents, accounting for over 18% of the total respondents, specified a fire department member of their organization has been involved in a motor vehicle collision while responding in a privately-owned vehicle. Of the seven fire departments that had been involved in a motor vehicle collision, six indicated the privately-owned vehicle was displaying department affiliation tags as required by state law, and five of the fire departments indicated the privately-owned vehicle was using emergency flashing lights at the time of the incident, also as required by state law. At the

time of the incident, two of the seven motor vehicle collisions involved a responder who had proceeded past a red light or stop sign, three of the seven incidents involved a responder who was exceeding the posted speed limit, and one of the seven incidents involved a responder who was parked in a location that contributed to the incident. The respondents indicated that inclement weather contributed to four of the seven motor vehicle collisions and poor visibility due contributed to one of the motor vehicle collisions. All of the respondents indicated that local, county, or state law enforcement officers completed the incident report for each of the seven collisions. Insurance provided by the fire department covered only one of the seven motor vehicle collisions and insurance provided by the individual's privately-owned vehicle covered all seven of the incidents (See Appendix B).



The first research question was also researched by obtaining raw data from the USFA Firefighter Fatality database, which was provided by the USFA National Fire Data Center. The results from the raw data indicate that nationally, there are 89 records of firefighter fatalities involving privately-owned vehicle emergency response collisions between January of 1990 and

January of 2012. None of the 89 privately-owned vehicle emergency response collision firefighter fatalities occurred in Wyoming. The data set includes records for 2,616 total firefighter fatalities from across the country, including the firefighter fatalities from the World Trade Center.

The results from the second research question regarding how Wyoming law enforcement collision reports collect data from motor vehicle collisions involving privately-owned vehicles used by members of a fire department indicate that all Wyoming law enforcement agencies use a standardized traffic crash report form to collect data for every motor vehicle collision with over $1,000.00 in damage. The second research question was researched by conducting a telephone interview with WYDOT Highway Safety Engineer Supervisor, Matt Carlson, and from analyzing raw data provided by WYDOT Highway Safety Engineer, Joe McCarthy. In addition, the National Highway Traffic Safety Administration was contacted and Information Management Specialist, Lyn Cianflocco provided raw data for analysis as well.

During the telephone interview Mr. Carlson explained that by Wyoming state statute, every motor vehicle collision with over $1,000.00 in damages must be reported using the Wyoming Investigator's Traffic Crash Report. The Wyoming Investigator's Traffic Crash Report has over 300 elements designed to capture data from motor vehicle collisions (See Appendix C). When a motor vehicle collision occurs, the responding law enforcement officer investigates the incident, completes the report, and submits it to the state WYDOT office within 30 days. Mr. Carlson explained that the WYDOT Highway Safety Office is responsible to collect and analyze data for all reported motor vehicle collisions that occur in Wyoming.

Mr. Carlson explained the Wyoming Investigator's Traffic Crash Report could be updated with additions or changes fairly easily. In order for a change to the form to become

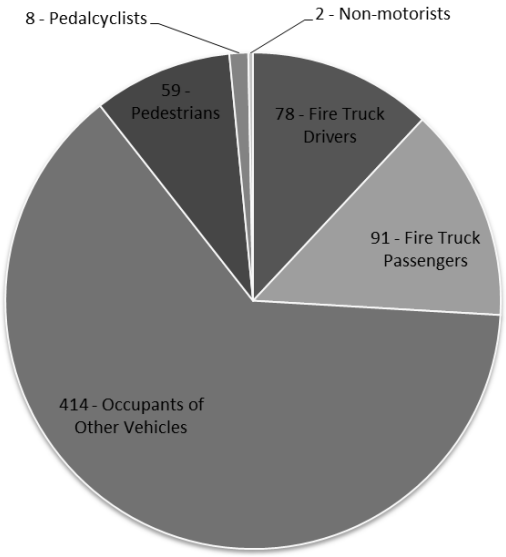
finalized, a written request would have to be submitted to the WYDOT Highway Safety Office. The request would then be evaluated to determine if the change is appropriate, beneficial, and worthwhile. Once the suggested change is recommended, it would then be included in the next revision of the Wyoming Investigator's Traffic Crash Report form and distributed statewide to all the local, county and state law enforcement agencies.

During the interview with Mr. Carlson, he explained that he would have Joe McCarthy, Highway Safety Engineer, with the Wyoming Department of Transportation access the Wyoming Traffic Crash Report Database and submit a query for fire related motor vehicle collisions in Wyoming. The data set provided by Mr. McCarthy indicates that between January of 2000 and January of 2012, a total of 138 records of fire department related motor vehicle collisions appear in the database for the entire state of Wyoming. Mr. McCarthy indicated that he does not believe this data includes motor vehicle collisions that involved firefighters driving privately-owned vehicles during emergency response. For further analysis, Mr. McCarthy also provided a copy of the Wyoming Investigator's Traffic Crash Report in addition to the data from his query.

The results from the data provided by National Highway Traffic Safety Administration Information Management Specialist, Lyn Cianflocco indicate that between 1982 and 2010, there have been 571 fatal crashes involving fire trucks nationwide. During the same time period, there have been a total of 652 persons killed in crashes involving fire trucks. Of those 652 persons, 78 were the fire truck drivers, 91 were fire truck passengers, 414 were occupants of the other vehicle, 59 were pedestrians, eight were pedalcyclists, and two were non-motorists. To summarize these figures, of the 652 persons killed in crashes involving fire trucks, 74% of the

fatalities were members of the general public and the remaining 26% were members of a fire department.

Figure 2 - Persons Killed in Crashes Involving Fire Vehicles, 1982-2010



Source: National Highway Traffic Safety Administration

The results from the third research question regarding how auto insurance companies in Wyoming collect data from motor vehicle collisions involving privately-owned vehicles used by members of a fire department indicate that Wyoming insurers have not developed a database with information from these types of incidents. Rather, Wyoming insurers often rely on affiliate companies to provide actuarial data. This data is developed at the request of the insurer and is based upon previous insurance claims for similar risks and hazards. No actuarial data was available with regards to Wyoming privately-owned vehicles emergency response collisions.

As part of the research procedures for the third research question, a telephone interview was conducted with Kathy Misener, Policy and Planning Analyst for the Wyoming State Insurance Department. The results from the telephone interview with Ms. Misener indicate Wyoming insurers rely heavily on actuarial service providers to assesses risk and make

recommendations for pricing of insurance. Based upon the recommendations from the ISO and other similar actuarial service providers, requirements for insurance coverage are established.

Ms. Misener also explained there are numerous personal auto insurers in Wyoming who would provide insurance coverage for privately-owned vehicles. Each insurer would have different requirements for individuals who use their vehicles to respond to emergency incidents. For example, some insurance companies may require an additional rider, other insurance companies may explicitly prevent emergency response, and still other insurance companies may provide coverage so long as the responder was following state vehicle codes and regulations.

Continuing the research procedures for the third research question, a telephone interview was also conducted with Mark Pring, Executive Director for the Wyoming Local Government Liability Pool (LGLP). Mr. Pring explained that in the event of a motor vehicle collision involving a privately-owned vehicle being driven by a firefighter responding to an incident, the city, town, municipality, special tax district, or participating agency would be required to submit a claim to the LGLP. Afterwards, the LGLP would analyze the facts of the incident and provide appropriate liability coverage if the firefighter was acting within the scope of his or her duties while responding to an official emergency incident. However, Mr. Pring explained that if the firefighter was responding to the station rather than to an incident, there would be a gray area needing close examination to determine if liability coverage could be provided. There is precedence that may be applicable indicating that if the firefighter was traveling to the workplace in preparation to perform work, coverage might not be provided. Mr. Pring further explained that as part of the analysis of the incident, it must be determined the firefighter was not only acting within the scope of his or her duties, but also that the firefighter was acting within the confines of local, state, and federal laws before coverage could be provided. In the event of a

motor vehicle collision, the LGLP would only provide liability coverage for any affected third parties. Collision coverage and comprehensive coverage would not be provided as part of any submitted claims through LGLP. If collision or comprehensive coverage is necessary, it would be the responsibility of the individual firefighter or the agency to provide such coverage. Mr. Pring explained that by Wyoming state law, liability coverage is capped at $250,000 per injured third party and $500,000 per collision for additional injured third parties. If third party damages amount to more than the specified caps, then the participating agency would be liable to cover the additional damages.

Discussion

As part of the literature review, the USPS Highway Contractor Safety Handbook PO-515 was reviewed. This training manual provides guidance for postal service employees regarding policies, practices, and procedures when operating privately-owned vehicles (United States Postal Service, 2010). The training manual emphasizes the importance of accurate data collection and requires the use of the internal accident report form, PS Form 1769/301, to report all motor vehicle crashes.

In addition to the USPS research, the U.S. Army's Privately-Owned Vehicle Risk Management Toolbox for Commanders, Leaders, and Non-Commissioned Officers was also reviewed. This training manual provides the U.S. Army with standard operating procedures, best practice examples, and lessons learned as related to privately-owned vehicle safety (U.S. Army Safety Center, 2006). The training manual focuses on the importance of continued training and contains specific policies for after-action-reviews, assessment instructions, and reporting forms for privately-owned vehicle fatalities.

Both the USPS and the U.S. Army documents corroborate the results discovered during the research procedures. Both organizations have devoted a tremendous amount of time to

understanding the scope of the problem by creating reporting forms and tracking the data from employees involved in motor vehicle collisions. In addition, both organizations have taken the issue further by creating policies for after-action-reviews, creating training programs to address the identified problems, and developing policies, practices, and procedures for operating privately-owned vehicles.

It was discovered during the research that many Wyoming fire departments rely on local, county, or state law enforcement agencies to document motor vehicle accidents involving fire apparatus and privately-owned vehicle responses. However, the Wyoming Investigator's Traffic Crash Report Manual is not comprehensive enough as a stand-alone program to accomplish what the USPS and the U.S. Army have done with their programs (Wyoming Department of Transportation, 2008). Law enforcement officers simply record the circumstances of motor vehicle collisions using the Wyoming Investigator's Traffic Crash Report. The value and benefit of the Wyoming Investigator's Traffic Crash Report is not fully realized by the involved fire department as compared to the USPS and U.S. Army programs. A comprehensive program designed to accurately capture and analyze data from motor vehicle collisions involving privately-owned vehicles used during emergency response is necessary as a foundation for a viable solution to address the problem. Future efforts to develop policies, procedures, and training programs aimed at the problem can only be successful if the scope of the problem is fully understood.

As part of the literature review, it was discovered that NIOSH has created a list of recommendations to minimize potential fatalities involving privately-owned vehicles used during emergency response (National Institute for Occupational Safety and Health, 2012). The NIOSH recommendations will make excellent policies, procedures and a training program for future

efforts regarding privately-owned vehicle emergency response mitigations. However, without adequate analysis of the scope of the problem, it will be extremely difficult to adequately address the issues and create programs that meet the identified needs.

Based on the results from the data provided by the NHTSA, the general public is indeed exposed to an increased risk from fire apparatus during emergency response. However, the data is not sufficient to analyze the risks associated with privately-owned vehicles used during emergency response. It must be noted, the data from the NHTSA only includes fatal crashes involving fire trucks**.** Data from fatal crashes involving ambulances and police vehicles were not included in the figures. Furthermore, data from fatal crashes involving firefighters responding in privately-owned vehicles was unavailable and not included in these figures. The data is relevant however, because it helps to illustrate the impact fire apparatus related motor vehicle collisions have on the general public.

As part of the literature review, The Model Minimum Uniform Crash Criteria (MMUCC) was analyzed. The MMUCC is a model designed to provide guidance for states to complete standardized motor vehicle collision reports that match other states' reports on a national level (Governors Highway Safety Association, 2012). The MMUCC emphasizes that driver behavior related to emergency vehicle response is becoming national problem. Furthermore, the MMUCC explains that gathering emergency response information will eventually lead to efforts to reduce the number of motor vehicle crashes involving emergency vehicle response (Governors Highway Safety Association, 2012).

As part of the research for this project, the Wyoming Investigator's Traffic Crash Report was obtained and analyzed. The Wyoming Traffic Records Coordinating Committee utilized the MMUCC as a guideline to develop the Wyoming Investigator's Traffic Crash Report. Section

117 of the Wyoming Investigator's Traffic Crash Report records the function of motor vehicle involved in the collision. Fourteen selectable options are available under this section including police, ambulance, and fire truck. The Appendix of the Wyoming Investigator's Traffic Crash Reporting Manual explains the fire truck coding element refers only to vehicles owned by local, county, or state fire protection agencies (Wyoming Department of Transportation, 2008). By the guidance included in the appendix of the training manual for completing traffic crash reports, Wyoming law enforcement officers are precluded from documenting privately-owned vehicles being used by firefighters during emergency response because the vehicle is not owned by local, county, or state fire protection agencies. It is imperative that the Wyoming Investigator's Traffic Crash Report and the corresponding training manual be updated to reflect the MMUCC's purpose of gathering emergency response information to reduce the number of motor vehicle crashes involving emergency vehicle responses.

During the literature review, it was discovered that insurance companies quantify risk with data provided by industry professionals called actuaries. Actuaries use data to calculate risk and make recommendations regarding underwriting decisions (Insurance Services Office website, n.d.). The importance of actuaries was emphasized during the interview with Kathy Misener, Policy and Planning Analyst for the Wyoming State Insurance Department. Ms. Misener explained that many Wyoming insurers rely on actuarial services to make decisions regarding insurance coverage and pricing.

An unexpected result was discovered during the interview with Mark Pring, Executive Director for the Wyoming Local Government Liability Pool. Mr. Pring explained that there may be gaps in liability coverage if a firefighter responds to the station rather than to an incident because the firefighter would be traveling to the workplace in preparation to perform work. This

statement may have profound impacts on numerous fire departments in Wyoming. Furthermore, Mr. Pring emphasized the importance of firefighters providing collision coverage and comprehensive coverage on their privately-owned vehicles used during emergency response because the LGLP only provides liability coverage for any affected third parties.

The importance of collision and comprehensive coverage was also emphasized as part of the results from the Wyoming fire chief's questionnaire. Insurance provided by the fire departments covered only one of the six motor vehicle collisions documented as part of the questionnaire. Whereas the individual's privately-owned vehicle insurance coverage was provided in all six of the incidents.

The Wyoming fire chief's questionnaire also indicates that privately-owned vehicle emergency response collisions are a problem in Wyoming. Approximately 18% of the respondents indicated a member of their fire department has been involved in a motor vehicle collision while responding in a privately-owned vehicle. Due to the small numbers of respondents who provided data regarding privately-owned motor vehicle collisions, it is impossible to determine if the Wyoming state statutes allowing authorized emergency vehicles to proceed past stop signals and signs, exceed posted speed limits, disregard specified traffic movement direction, and park emergency vehicles irrespective of posted regulations has affected public safety. Further research must be conducted with more complete data and information to analyze the potential impact on public safety.

The implications of this research to the Wyoming State Fire Marshal's Office indicate the organization must take a more proactive role to ensure not only firefighter safety during emergency response, but also the safety of the general public. Current data collection procedures are inadequate to the task. Leadership involvement at the state level is necessary to accurately

capture data from motor vehicle collisions involving privately-owned vehicles used during emergency response. Once the nature and scope of the problem has been fully analyzed and understood, further efforts must be made to create policies, procedures, and training programs as well.

The results from both the literature review and the procedures completed as part of this applied research project indicate there are multiple resources available to address the problem of privately-owned vehicle emergency response collisions. However, these resources are often disparate and remote from each other. The information from these multiple different resources has created a stop-gap effect that misses the intended target of reducing risk. Multiple organizations and agencies have put forth portions of the solution, but no single comprehensive action plan has been developed to address the root of the problem.

Recommendations

The identified problem for this research project was the State of Wyoming has no systematic method to collect data from motor vehicle collisions involving privately-owned vehicles used by fire department members while performing, or traveling to perform, assigned firefighting or emergency service duties. Therefore, the purpose of the research project was to identify methods to collect data from these types of incidents. The primary recommendation to address the purpose of the research project is to modify the Wyoming Investigator's Traffic Crash Report and accompanying training manual for law enforcement officers.

Based on the research results, the Wyoming State Fire Marshal's Office needs to submit a formal proposal for modification to the Wyoming Traffic Records Coordinating Committee. The proposal should reference the Model Minimum Uniform Crash Criteria and make recommendations to update Section 117 of the Wyoming Investigator's Traffic Crash Report. In

addition to the existing fourteen selectable options such as police, ambulance, and fire trucks, an additional selectable option should be included for firefighters responding in privately-owned vehicles during emergency response. Correctly identifying privately-owned vehicle emergency response collisions and then capturing the data correctly is essential for future efforts to analyze the problem. A similar formal proposal for modification should also be submitted to the workgroups responsible for the development of the Model Minimum Uniform Crash Criteria to ensure this data is captured on a national level as well.

Once the additional data from the Wyoming Investigator's Traffic Crash Report becomes available, the WYDOT Highway Safety Engineer's Office can easily analyze the nature and scope of the problem to identify exactly how many of these types of collisions are occurring in Wyoming. This process would be the first step in conducting a formal needs analysis.

Future research will be necessary to conduct the formal needs analysis to identify exactly how big the problem really is. Based on the results from the needs analysis, the Wyoming State Fire Marshal's Office will eventually need to develop a comprehensive program to address the identified issues. The program should utilize the numerous products related to privately-owned vehicle response that are available from other agencies and organizations. For example, the VFIS, Privately-Owned Vehicle Operations – Answering the Call Safely training program could be utilized as an excellent component of the overall program. Furthermore, the privately-owned vehicle programs available from the USPS and the U.S. Army could also be used as a guide when creating incident after-action-reviews, assessment instructions, vehicle inspection procedures, defensive driving programs, and privately-owned vehicle training programs.

The NIOSH recommendations to minimize future fatalities involving privately-owned vehicles used during emergency response should also be reviewed and included. These

recommendations include providing program oversight, vehicle inspection procedures, the development of standard operating guidelines, the explicitly required use of seatbelts, requirements to ensure state motor vehicle codes are followed, training programs for all new-member orientations and driver training sessions, and requirements for annual defensive driver training programs (National Institute for Occupational Safety and Health, 2012). Additional research will be necessary to identify other sources of information, guides, models, and training programs.

The recommendations outlined herein will prove to be great benefit for not only Wyoming firefighters, but also for the general public. With accurate and consistent data collection procedures that capture data related to privately-owned vehicle emergency response collisions, the root causes of the problem can be analyzed to ensure appropriate mitigation strategies are developed.

Future readers who may wish to replicate this study would be advised to include research from the National Fire Protection Association. Additionally, research from the National Fire Incident Reporting System may prove beneficial as well. Data from actuarial services may also prove to be beneficial to future research. Finally, future readers may also wish to focus efforts on data available from the National Highway Traffic Safety Administration.

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APPENDIX A

PRIVATELY-OWNED VEHICLES MOTOR VEHICLE COLLISION QUESTIONNAIRE

The following questionnaire is intended to collect data regarding privately-owned vehicles involved in motor vehicle collisions while responding to emergency incidents. Please complete the following questions to the best of your ability. If your department has experienced more than one incident involving privately-owned vehicles, please fill out the questionnaire again for each additional incident. Thank you for your participation and assistance.

Organization Data

Note: the following two questions are helpful to prevent duplicate or redundant information and to conduct follow up questions if problems exist with the data from this questionnaire.

Fire Department Name

Name and rank of person completing this questionnaire

Questionnaire

1. Have any of your fire department members (current or past) been involved in a motor vehicle collision (MVC) while responding in a privately-owned vehicle (POV)?If no is selected, the questionnaire is completed. Please scroll to the bottom of the page and select the submit button.

- Yes
- No

2. Was a fire department affiliation marker or tag present on the involved POV which designated the vehicle as an authorized emergency vehicle?

- Yes
- No

3. Were any emergency flashing red, white, or amber lights being used by the emergency responder at the time of the incident?

- Yes
- No

4. At the time of the incident involving the POV, did the emergency responder proceed past a red light or stop sign and contribute to the occurrence of the motor vehicle collision?

- Yes
- No

5. At the time of the incident involving the POV, did the emergency responder exceed the posted maximum speed limit and contribute to the occurrence of the motor vehicle collision?

- Yes
- No

6. At the time of the incident involving the POV, did the emergency responder drive in a direction of travel opposite to the specified direction and contribute to the occurrence of the motor vehicle collision?

- Yes
- No

7. At the time of the incident involving the POV, was the emergency responder's vehicle parked in a location that contributed to the occurrence of the motor vehicle collision?

- ☐ Yes
- ☐ No

8. Were there any additional contributing factors that led to the resulting MVC?

- ☐ Weather
- ☐ Road Conditions (i.e., icy, wet, dry, etc.)
- ☐ Road Type (i.e., pavement, gravel)
- ☐ Time of Day
- ☐ Impaired Driving
- ☐ Other:

9. How did your fire department document the motor vehicle collision involving the POV?

10. Who completed the incident report for the motor vehicle collision involving the POV?

- ☐ Highway Patrol
- ☐ County Sheriff's Office
- ☐ City Police
- ☐ Other:

11. Was a claim paid by the fire department member's privately owned vehicle insurance policy?

- ☐ Yes
- ☐ No

12. Was a claim paid by an insurance policy provided through the fire department? (Example: VFIS)

- ☐ Yes
- ☐ No

Submit

APPENDIX B

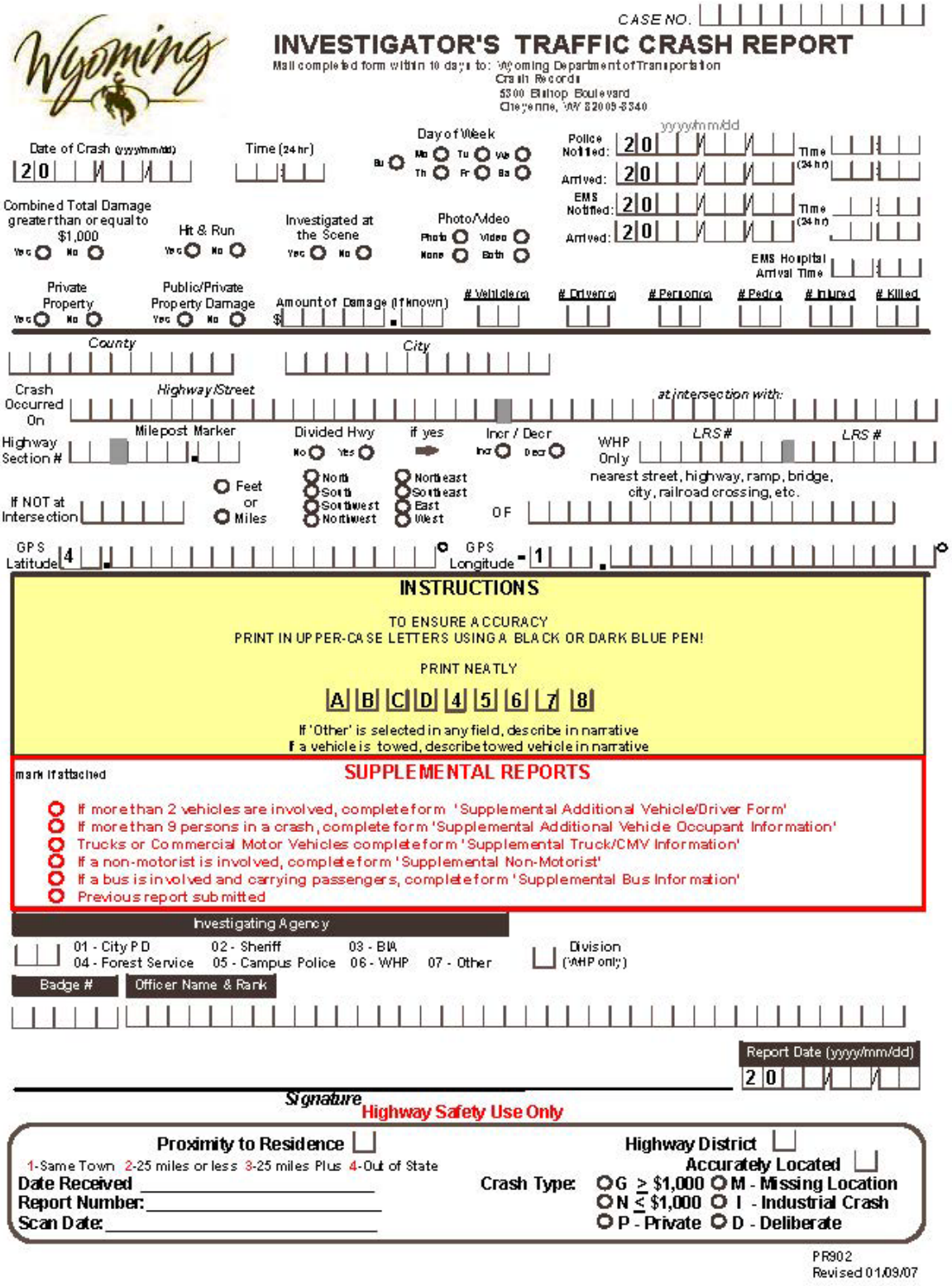
PRIVATELY-OWNED VEHICLES MOTOR VEHICLE COLLISION QUESTIONNAIRE RESULTS

1. Have any of your fire department members (current or past) been involved in a motor vehicle collision (MVC) while responding in a privately-owned vehicle (POV)?
2. Was a fire department affiliation marker or tag present on the involved POV which designated the vehicle as an authorized emergency vehicle?
3. Were any emergency flashing red, white, or amber lights being used by the emergency responder at the time of the incident?
4. At the time of the incident involving the POV, did the emergency responder proceed past a red light or stop sign and contribute to the occurrence of the motor vehicle collision?
5. At the time of the incident involving the POV, did the emergency responder exceed the posted maximum speed limit and contribute to the occurrence of the motor vehicle collision?
6. At the time of the incident involving the POV, did the emergency responder drive in a direction of travel opposite to the specified direction and contribute to the occurrence of the motor vehicle collision?
7. At the time of the incident involving the POV, was the emergency responder's vehicle parked in a location that contributed to the occurrence of the motor vehicle collision?
8. Were there any additional contributing factors that led to the resulting MVC?
9. How did your fire department document the motor vehicle collision involving the POV?
10. Who completed the incident report for the motor vehicle collision involving the POV?
11. Was a claim paid by the fire department member's privately-owned vehicle insurance policy?
12. Was a claim paid by an insurance policy provided through the fire department? (Example: VFIS)

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
No											
Yes	Yes	No	No	No	No	Yes	Road Conditions (i.e., icy, wet, dry, etc.)	Completed a police report	City Police	Yes	No
No											
No											
Yes	Yes	Yes	No	No	No	No	Weather, Road Conditions (i.e., icy, wet, dry, etc.)	Completed an Incident Report	Highway Patrol	Yes	No
No											
No											
No											
No											
No											
No											
No											

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
No											
Yes	Yes	Yes	Yes	Yes	Yes	No	Time of Day, Partially frosted over windshield	The incident happened before the Official formation of our Fire District. At the time of the incident we were under the control of the County Fire Warden and the County Commissioners. No documentation was taken of the wreck by the County Fire Warden. The incident was investigated by the City Police Dept. and the County Attorney's office.	City Police	No	No
Yes	No	No	No	No	No	No	Weather	It was documented with the chief and local law enforcement investigated and documented it appropriately.	Highway Patrol	Yes	No
No											
No											
No											
No											
No											
Yes	Yes	Yes	No	No	No	No	Road Conditions (i.e., icy, wet, dry, etc.)	Law enforcement conduct an accident scene investigation	Highway Patrol	Yes	Yes
No											
Yes	Yes	Yes	No	Yes	No	No	N/A	Reported to insurance company	County Sheriff's Office	Yes	No
Yes	Yes	Yes	Yes	Yes	No	No	N/A	This incident occurred prior to the official formation of the agency; however, this incident is well documented both in the local newspaper and the VFIS driver training literature.	City Police	Yes	No
No											
No											
No											
No											
No											
No											
No											
No											
No											
No											
No											
No											
No											
No											
No											

APPENDIX C



CASE NO.

Wyoming

INVESTIGATOR'S TRAFFIC CRASH REPORT

Mail completed form within 10 days to: Wyoming Department of Transportation
Crash Records
5300 Bishop Boulevard
Cheyenne, WY 82009-3340

Date of Crash (yyyy/mm/dd) 20

Time (24 hr)

Day of Week: Su Mo Tu We Th Fr Sa

Police Notified: 20 Time (24 hr)
Arrived: 20

EMS Notified: 20 Time (24 hr)
Arrived: 20

EMS Hospital Arrival Time

Combined Total Damage greater than or equal to $1,000 Yes No

Hit & Run Yes No

Investigated at the Scene Yes No

Photo/Video: Photo Video None Both

Private Property Yes No

Public/Private Property Damage Yes No

Amount of Damage (if known) $

Vehicle(s) | # Driver(s) | # Person(s) | # Ped(s) | # Injured | # Killed

County | City

Crash Occurred On | Highway/Street | at intersection with:

Highway Section # | Milepost Marker | Divided Hwy No Yes | if yes | Incr / Decr Incr Decr | WHP Only | LRS # | LRS #

If NOT at Intersection | Feet or Miles | North South Southwest Northwest Northeast Southeast East West | OF | nearest street, highway, ramp, bridge, city, railroad crossing, etc.

GPS Latitude 4 | GPS Longitude -1

INSTRUCTIONS

TO ENSURE ACCURACY
PRINT IN UPPER-CASE LETTERS USING A BLACK OR DARK BLUE PEN!

PRINT NEATLY

A B C D 4 5 6 7 8

If 'Other' is selected in any field, describe in narrative
If a vehicle is towed, describe towed vehicle in narrative

mark if attached

SUPPLEMENTAL REPORTS

- If more than 2 vehicles are involved, complete form 'Supplemental Additional Vehicle/Driver Form'
- If more than 9 persons in a crash, complete form 'Supplemental Additional Vehicle Occupant Information'
- Trucks or Commercial Motor Vehicles complete form 'Supplemental Truck/CMV Information'
- If a non-motorist is involved, complete form 'Supplemental Non-Motorist'
- If a bus is involved and carrying passengers, complete form 'Supplemental Bus Information'
- Previous report submitted

Investigating Agency

01 - City PD 02 - Sheriff 03 - BIA 04 - Forest Service 05 - Campus Police 06 - WHP 07 - Other | Division (WHP only)

Badge # | Officer Name & Rank

Report Date (yyyy/mm/dd) 20

Signature

Highway Safety Use Only

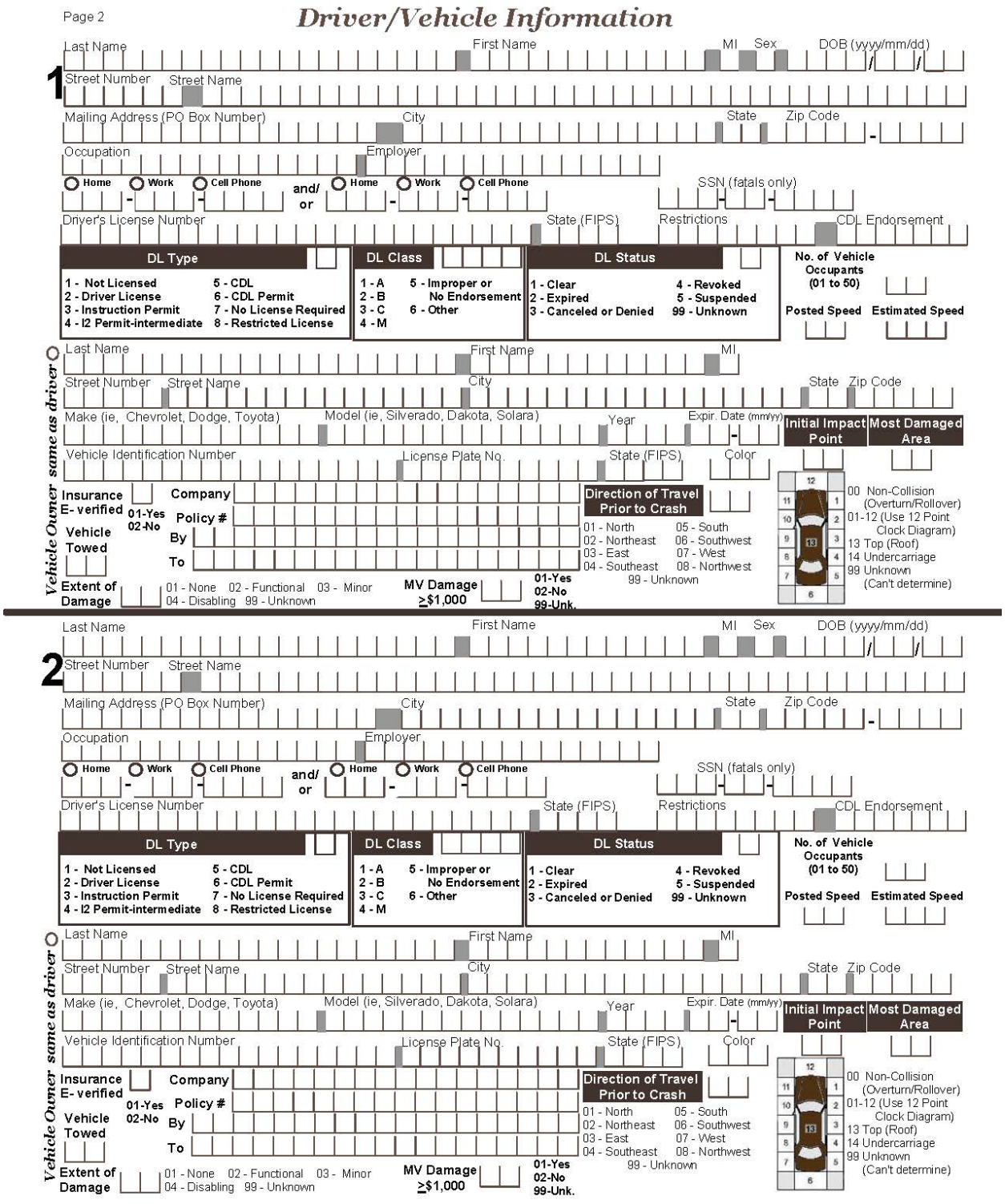
Proximity to Residence
1-Same Town 2-25 miles or less 3-25 miles Plus 4-Out of State

Date Received _____
Report Number: _____
Scan Date: _____

Highway District
Accurately Located

Crash Type: G ≥ $1,000 M - Missing Location
N ≤ $1,000 I - Industrial Crash
P - Private D - Deliberate

PR902
Revised 01/09/07


Page 2
Driver/Vehicle Information
1
Last Name
First Name
MI
Sex
DOB (yyyy/mm/dd)
Street Number
Street Name
Mailing Address (PO Box Number)
City
State
Zip Code
Occupation
Employer
Home
Work
Cell Phone
and/ or
SSN (fatals only)
Driver's License Number
State (FIPS)
Restrictions
CDL Endorsement
DL Type
1 - Not Licensed
2 - Driver License
3 - Instruction Permit
4 - I2 Permit-intermediate
5 - CDL
6 - CDL Permit
7 - No License Required
8 - Restricted License
DL Class
1 - A
2 - B
3 - C
4 - M
5 - Improper or No Endorsement
6 - Other
DL Status
1 - Clear
2 - Expired
3 - Canceled or Denied
4 - Revoked
5 - Suspended
99 - Unknown
No. of Vehicle Occupants (01 to 50)
Posted Speed
Estimated Speed
Vehicle Owner same as driver
Make (ie, Chevrolet, Dodge, Toyota)
Model (ie, Silverado, Dakota, Solara)
Year
Expir. Date (mm/yy)
Initial Impact Point
Most Damaged Area
Vehicle Identification Number
License Plate No.
Color
Insurance E- verified
01-Yes 02-No
Company
Policy #
Vehicle Towed
By
To
Direction of Travel Prior to Crash
01 - North
02 - Northeast
03 - East
04 - Southeast
05 - South
06 - Southwest
07 - West
08 - Northwest
99 - Unknown
00 Non-Collision (Overturn/Rollover)
01-12 (Use 12 Point Clock Diagram)
13 Top (Roof)
14 Undercarriage
99 Unknown (Can't determine)
Extent of Damage
01 - None
02 - Functional
03 - Minor
04 - Disabling
99 - Unknown
MV Damage ≥$1,000
01-Yes
02-No
99-Unk.
2
Last Name
First Name
MI
Sex
DOB (yyyy/mm/dd)
Street Number
Street Name
Mailing Address (PO Box Number)
City
State
Zip Code
Occupation
Employer
Home
Work
Cell Phone
and/ or
SSN (fatals only)
Driver's License Number
State (FIPS)
Restrictions
CDL Endorsement
DL Type
1 - Not Licensed
2 - Driver License
3 - Instruction Permit
4 - I2 Permit-intermediate
5 - CDL
6 - CDL Permit
7 - No License Required
8 - Restricted License
DL Class
1 - A
2 - B
3 - C
4 - M
5 - Improper or No Endorsement
6 - Other
DL Status
1 - Clear
2 - Expired
3 - Canceled or Denied
4 - Revoked
5 - Suspended
99 - Unknown
No. of Vehicle Occupants (01 to 50)
Posted Speed
Estimated Speed
Vehicle Owner same as driver
Make (ie, Chevrolet, Dodge, Toyota)
Model (ie, Silverado, Dakota, Solara)
Year
Expir. Date (mm/yy)
Initial Impact Point
Most Damaged Area
Vehicle Identification Number
License Plate No.
Color
Insurance E- verified
01-Yes 02-No
Company
Policy #
Vehicle Towed
By
To
Direction of Travel Prior to Crash
01 - North
02 - Northeast
03 - East
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05 - South
06 - Southwest
07 - West
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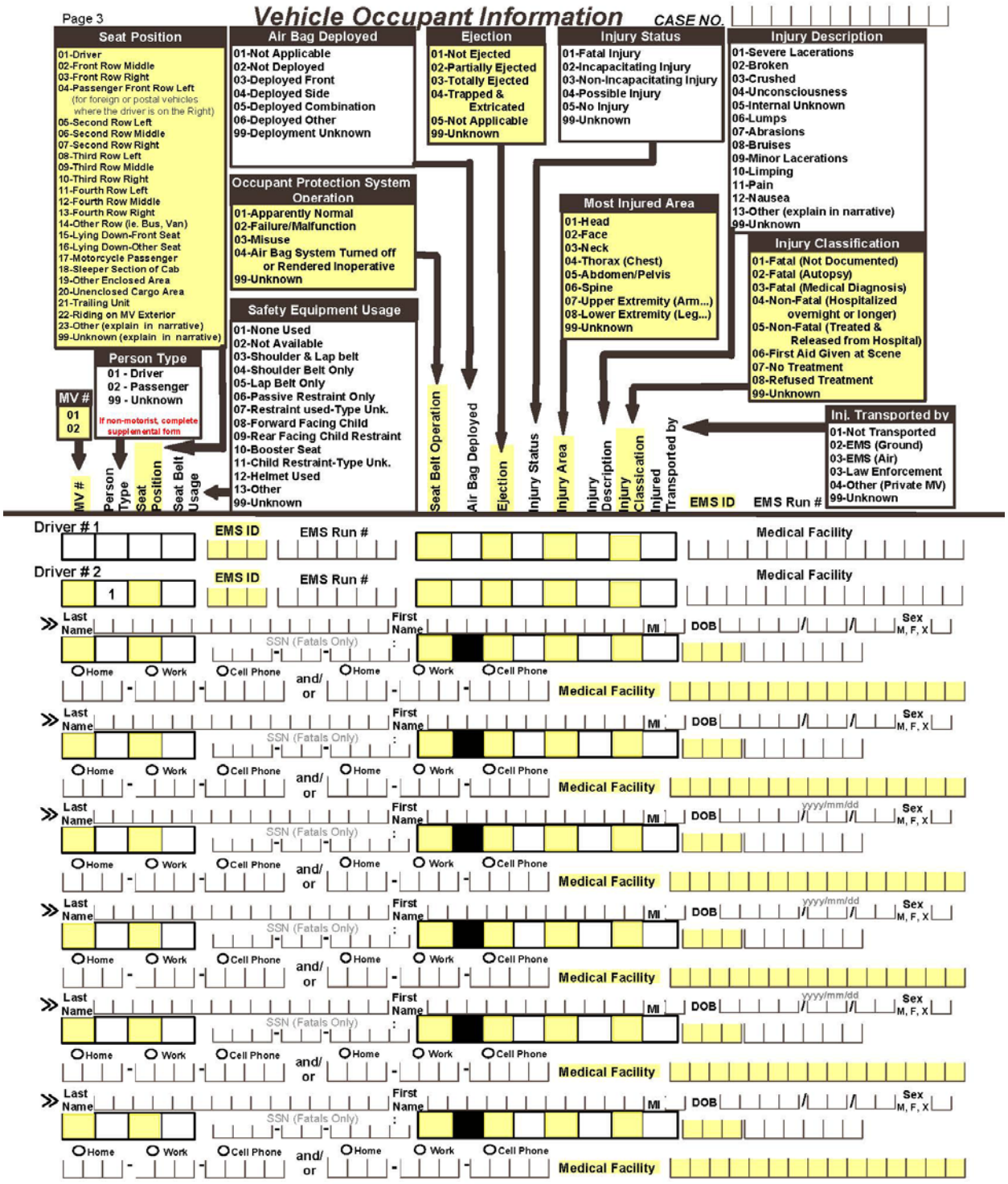
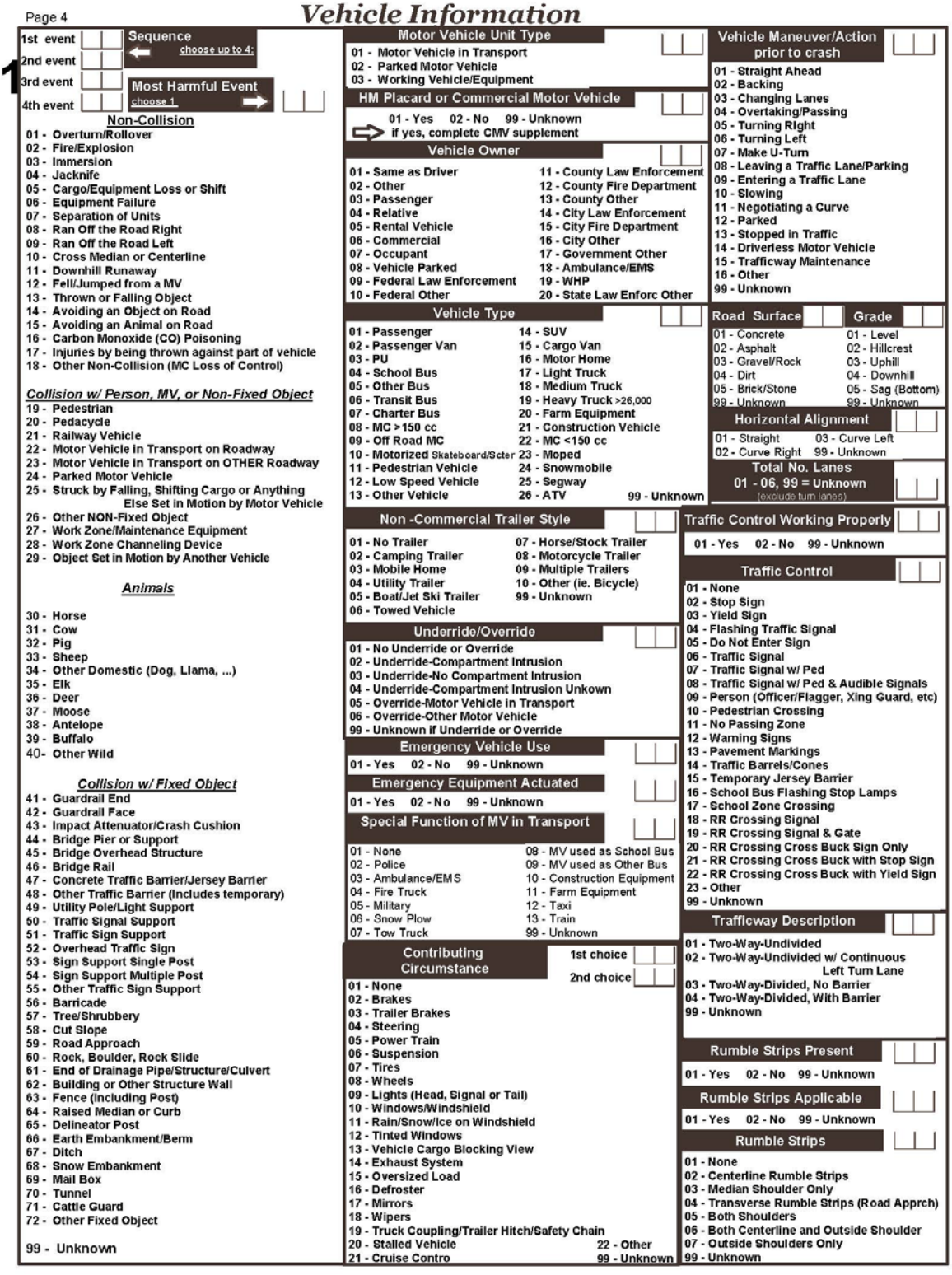
99 - Unknown
00 Non-Collision (Overturn/Rollover)
01-12 (Use 12 Point Clock Diagram)
13 Top (Roof)
14 Undercarriage
99 Unknown (Can't determine)
Extent of Damage
01 - None
02 - Functional
03 - Minor
04 - Disabling
99 - Unknown
MV Damage ≥$1,000
01-Yes
02-No
99-Unk.


Page 3
Vehicle Occupant Information
CASE NO.
Seat Position
01-Driver
02-Front Row Middle
03-Front Row Right
04-Passenger Front Row Left
(for foreign or postal vehicles where the driver is on the Right)
05-Second Row Left
06-Second Row Middle
07-Second Row Right
08-Third Row Left
09-Third Row Middle
10-Third Row Right
11-Fourth Row Left
12-Fourth Row Middle
13-Fourth Row Right
14-Other Row (Ie. Bus, Van)
15-Lying Down-Front Seat
16-Lying Down-Other Seat
17-Motorcycle Passenger
18-Sleeper Section of Cab
19-Other Enclosed Area
20-Unenclosed Cargo Area
21-Trailing Unit
22-Riding on MV Exterior
23-Other (explain in narrative)
99-Unknown (explain in narrative)
Air Bag Deployed
01-Not Applicable
02-Not Deployed
03-Deployed Front
04-Deployed Side
05-Deployed Combination
06-Deployed Other
99-Deployment Unknown
Ejection
01-Not Ejected
02-Partially Ejected
03-Totally Ejected
04-Trapped & Extricated
05-Not Applicable
99-Unknown
Injury Status
01-Fatal Injury
02-Incapacitating Injury
03-Non-Incapacitating Injury
04-Possible Injury
05-No Injury
99-Unknown
Injury Description
01-Severe Lacerations
02-Broken
03-Crushed
04-Unconsciousness
05-Internal Unknown
06-Lumps
07-Abrasions
08-Bruises
09-Minor Lacerations
10-Limping
11-Pain
12-Nausea
13-Other (explain in narrative)
99-Unknown
Occupant Protection System Operation
01-Apparently Normal
02-Failure/Malfunction
03-Misuse
04-Air Bag System Turned off or Rendered Inoperative
99-Unknown
Most Injured Area
01-Head
02-Face
03-Neck
04-Thorax (Chest)
05-Abdomen/Pelvis
06-Spine
07-Upper Extremity (Arm...)
08-Lower Extremity (Leg...)
99-Unknown
Injury Classification
01-Fatal (Not Documented)
02-Fatal (Autopsy)
03-Fatal (Medical Diagnosis)
04-Non-Fatal (Hospitalized overnight or longer)
05-Non-Fatal (Treated & Released from Hospital)
06-First Aid Given at Scene
07-No Treatment
08-Refused Treatment
99-Unknown
Safety Equipment Usage
01-None Used
02-Not Available
03-Shoulder & Lap belt
04-Shoulder Belt Only
05-Lap Belt Only
06-Passive Restraint Only
07-Restraint used-Type Unk.
08-Forward Facing Child
09-Rear Facing Child Restraint
10-Booster Seat
11-Child Restraint-Type Unk.
12-Helmet Used
13-Other
99-Unknown
Person Type
01 - Driver
02 - Passenger
99 - Unknown
If non-motorist, complete supplemental form
MV #
01
02
Inj. Transported by
01-Not Transported
02-EMS (Ground)
03-EMS (Air)
03-Law Enforcement
04-Other (Private MV)
99-Unknown
MV #
Person Type
Seat Position
Seat Belt Usage
Seat Belt Operation
Air Bag Deployed
Ejection
Injury Status
Injury Area
Injury Description
Injury Classication
Injured Transported by
EMS ID
EMS Run #
Driver # 1
EMS ID
EMS Run #
Medical Facility
Driver # 2
1
EMS ID
EMS Run #
Medical Facility
Last Name
First Name
MI
DOB
Sex M, F, X
SSN (Fatals Only)
Home
Work
Cell Phone
and/ or
Medical Facility
yyyy/mm/dd



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Vehicle Information

1

1st event
2nd event
3rd event
4th event

Sequence choose up to 4:

Most Harmful Event choose 1

Non-Collision

01 - Overturn/Rollover
02 - Fire/Explosion
03 - Immersion
04 - Jacknife
05 - Cargo/Equipment Loss or Shift
06 - Equipment Failure
07 - Separation of Units
08 - Ran Off the Road Right
09 - Ran Off the Road Left
10 - Cross Median or Centerline
11 - Downhill Runaway
12 - Fell/Jumped from a MV
13 - Thrown or Falling Object
14 - Avoiding an Object on Road
15 - Avoiding an Animal on Road
16 - Carbon Monoxide (CO) Poisoning
17 - Injuries by being thrown against part of vehicle
18 - Other Non-Collision (MC Loss of Control)

Collision w/ Person, MV, or Non-Fixed Object

19 - Pedestrian
20 - Pedacycle
21 - Railway Vehicle
22 - Motor Vehicle in Transport on Roadway
23 - Motor Vehicle in Transport on OTHER Roadway
24 - Parked Motor Vehicle
25 - Struck by Falling, Shifting Cargo or Anything Else Set in Motion by Motor Vehicle
26 - Other NON-Fixed Object
27 - Work Zone/Maintenance Equipment
28 - Work Zone Channeling Device
29 - Object Set in Motion by Another Vehicle

Animals

30 - Horse
31 - Cow
32 - Pig
33 - Sheep
34 - Other Domestic (Dog, Llama, ...)
35 - Elk
36 - Deer
37 - Moose
38 - Antelope
39 - Buffalo
40 - Other Wild

Collision w/ Fixed Object

41 - Guardrail End
42 - Guardrail Face
43 - Impact Attenuator/Crash Cushion
44 - Bridge Pier or Support
45 - Bridge Overhead Structure
46 - Bridge Rail
47 - Concrete Traffic Barrier/Jersey Barrier
48 - Other Traffic Barrier (Includes temporary)
49 - Utility Pole/Light Support
50 - Traffic Signal Support
51 - Traffic Sign Support
52 - Overhead Traffic Sign
53 - Sign Support Single Post
54 - Sign Support Multiple Post
55 - Other Traffic Sign Support
56 - Barricade
57 - Tree/Shrubbery
58 - Cut Slope
59 - Road Approach
60 - Rock, Boulder, Rock Slide
61 - End of Drainage Pipe/Structure/Culvert
62 - Building or Other Structure Wall
63 - Fence (Including Post)
64 - Raised Median or Curb
65 - Delineator Post
66 - Earth Embankment/Berm
67 - Ditch
68 - Snow Embankment
69 - Mail Box
70 - Tunnel
71 - Cattle Guard
72 - Other Fixed Object

99 - Unknown

Motor Vehicle Unit Type

01 - Motor Vehicle in Transport
02 - Parked Motor Vehicle
03 - Working Vehicle/Equipment

HM Placard or Commercial Motor Vehicle

01 - Yes 02 - No 99 - Unknown
if yes, complete CMV supplement

Vehicle Owner

01 - Same as Driver
02 - Other
03 - Passenger
04 - Relative
05 - Rental Vehicle
06 - Commercial
07 - Occupant
08 - Vehicle Parked
09 - Federal Law Enforcement
10 - Federal Other
11 - County Law Enforcement
12 - County Fire Department
13 - County Other
14 - City Law Enforcement
15 - City Fire Department
16 - City Other
17 - Government Other
18 - Ambulance/EMS
19 - WHP
20 - State Law Enforc Other

Vehicle Type

01 - Passenger
02 - Passenger Van
03 - PU
04 - School Bus
05 - Other Bus
06 - Transit Bus
07 - Charter Bus
08 - MC >150 cc
09 - Off Road MC
10 - Motorized Skateboard/Scter
11 - Pedestrian Vehicle
12 - Low Speed Vehicle
13 - Other Vehicle
14 - SUV
15 - Cargo Van
16 - Motor Home
17 - Light Truck
18 - Medium Truck
19 - Heavy Truck >26,000
20 - Farm Equipment
21 - Construction Vehicle
22 - MC <150 cc
23 - Moped
24 - Snowmobile
25 - Segway
26 - ATV
99 - Unknown

Non -Commercial Trailer Style

01 - No Trailer
02 - Camping Trailer
03 - Mobile Home
04 - Utility Trailer
05 - Boat/Jet Ski Trailer
06 - Towed Vehicle
07 - Horse/Stock Trailer
08 - Motorcycle Trailer
09 - Multiple Trailers
10 - Other (ie. Bicycle)
99 - Unknown

Underride/Override

01 - No Underride or Override
02 - Underride-Compartment Intrusion
03 - Underride-No Compartment Intrusion
04 - Underride-Compartment Intrusion Unkown
05 - Override-Motor Vehicle in Transport
06 - Override-Other Motor Vehicle
99 - Unknown if Underride or Override

Emergency Vehicle Use

01 - Yes 02 - No 99 - Unknown

Emergency Equipment Actuated

01 - Yes 02 - No 99 - Unknown

Special Function of MV in Transport

01 - None
02 - Police
03 - Ambulance/EMS
04 - Fire Truck
05 - Military
06 - Snow Plow
07 - Tow Truck
08 - MV used as School Bus
09 - MV used as Other Bus
10 - Construction Equipment
11 - Farm Equipment
12 - Taxi
13 - Train
99 - Unknown

Contributing Circumstance 1st choice / 2nd choice

01 - None
02 - Brakes
03 - Trailer Brakes
04 - Steering
05 - Power Train
06 - Suspension
07 - Tires
08 - Wheels
09 - Lights (Head, Signal or Tail)
10 - Windows/Windshield
11 - Rain/Snow/Ice on Windshield
12 - Tinted Windows
13 - Vehicle Cargo Blocking View
14 - Exhaust System
15 - Oversized Load
16 - Defroster
17 - Mirrors
18 - Wipers
19 - Truck Coupling/Trailer Hitch/Safety Chain
20 - Stalled Vehicle
21 - Cruise Contro
22 - Other
99 - Unknown

Vehicle Maneuver/Action prior to crash

01 - Straight Ahead
02 - Backing
03 - Changing Lanes
04 - Overtaking/Passing
05 - Turning RIght
06 - Turning Left
07 - Make U-Turn
08 - Leaving a Traffic Lane/Parking
09 - Entering a Traffic Lane
10 - Slowing
11 - Negotiating a Curve
12 - Parked
13 - Stopped in Traffic
14 - Driverless Motor Vehicle
15 - Trafficway Maintenance
16 - Other
99 - Unknown

Road Surface

01 - Concrete
02 - Asphalt
03 - Gravel/Rock
04 - Dirt
05 - Brick/Stone
99 - Unknown

Grade

01 - Level
02 - Hillcrest
03 - Uphill
04 - Downhill
05 - Sag (Bottom)
99 - Unknown

Horizontal Alignment

01 - Straight
02 - Curve Right
03 - Curve Left
99 - Unknown

Total No. Lanes

01 - 06, 99 = Unknown
(exclude turn lanes)

Traffic Control Working Properly

01 - Yes 02 - No 99 - Unknown

Traffic Control

01 - None
02 - Stop Sign
03 - Yield Sign
04 - Flashing Traffic Signal
05 - Do Not Enter Sign
06 - Traffic Signal
07 - Traffic Signal w/ Ped
08 - Traffic Signal w/ Ped & Audible Signals
09 - Person (Officer/Flagger, Xing Guard, etc)
10 - Pedestrian Crossing
11 - No Passing Zone
12 - Warning Signs
13 - Pavement Markings
14 - Traffic Barrels/Cones
15 - Temporary Jersey Barrier
16 - School Bus Flashing Stop Lamps
17 - School Zone Crossing
18 - RR Crossing Signal
19 - RR Crossing Signal & Gate
20 - RR Crossing Cross Buck Sign Only
21 - RR Crossing Cross Buck with Stop Sign
22 - RR Crossing Cross Buck with Yield Sign
23 - Other
99 - Unknown

Trafficway Description

01 - Two-Way-Undivided
02 - Two-Way-Undivided w/ Continuous Left Turn Lane
03 - Two-Way-Divided, No Barrier
04 - Two-Way-Divided, With Barrier
99 - Unknown

Rumble Strips Present

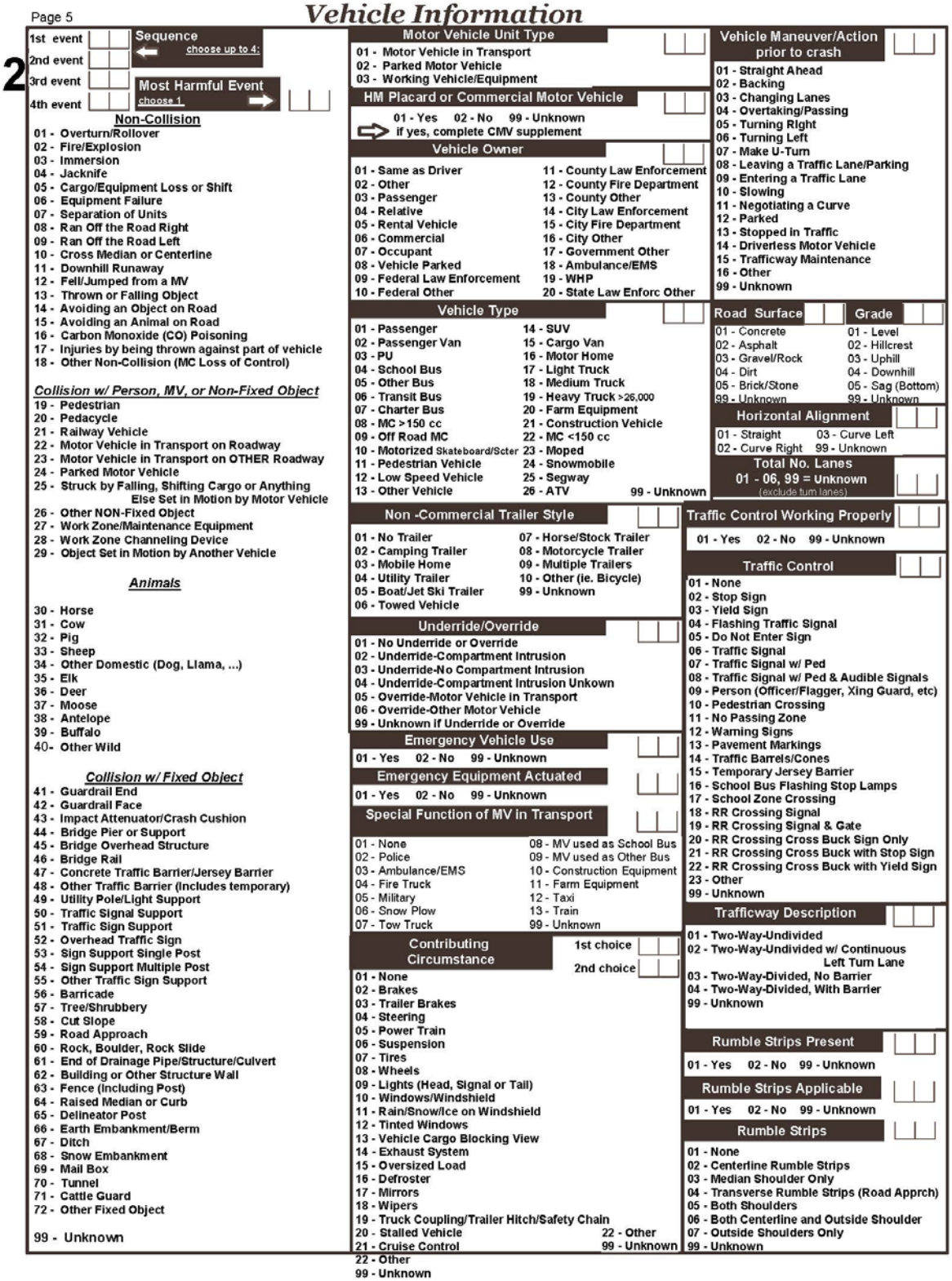
01 - Yes 02 - No 99 - Unknown

Rumble Strips Applicable

01 - Yes 02 - No 99 - Unknown

Rumble Strips

01 - None
02 - Centerline Rumble Strips
03 - Median Shoulder Only
04 - Transverse Rumble Strips (Road Apprch)
05 - Both Shoulders
06 - Both Centerline and Outside Shoulder
07 - Outside Shoulders Only
99 - Unknown



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Vehicle Information

2

Sequence (choose up to 4:)
1st event
2nd event
3rd event
4th event

Most Harmful Event (choose 1)

Non-Collision
01 - Overturn/Rollover
02 - Fire/Explosion
03 - Immersion
04 - Jacknife
05 - Cargo/Equipment Loss or Shift
06 - Equipment Failure
07 - Separation of Units
08 - Ran Off the Road Right
09 - Ran Off the Road Left
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11 - Downhill Runaway
12 - Fell/Jumped from a MV
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24 - Parked Motor Vehicle
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26 - Other NON-Fixed Object
27 - Work Zone/Maintenance Equipment
28 - Work Zone Channeling Device
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35 - Elk
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38 - Antelope
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48 - Other Traffic Barrier (Includes temporary)
49 - Utility Pole/Light Support
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51 - Traffic Sign Support
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63 - Fence (including Post)
64 - Raised Median or Curb
65 - Delineator Post
66 - Earth Embankment/Berm
67 - Ditch
68 - Snow Embankment
69 - Mail Box
70 - Tunnel
71 - Cattle Guard
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99 - Unknown

Motor Vehicle Unit Type
01 - Motor Vehicle in Transport
02 - Parked Motor Vehicle
03 - Working Vehicle/Equipment

HM Placard or Commercial Motor Vehicle
01 - Yes 02 - No 99 - Unknown
⇨ if yes, complete CMV supplement

Vehicle Owner
01 - Same as Driver
02 - Other
03 - Passenger
04 - Relative
05 - Rental Vehicle
06 - Commercial
07 - Occupant
08 - Vehicle Parked
09 - Federal Law Enforcement
10 - Federal Other
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12 - County Fire Department
13 - County Other
14 - City Law Enforcement
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07 - Charter Bus
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12 - Low Speed Vehicle
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17 - Light Truck
18 - Medium Truck
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20 - Farm Equipment
21 - Construction Vehicle
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24 - Snowmobile
25 - Segway
26 - ATV
99 - Unknown

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01 - No Trailer
02 - Camping Trailer
03 - Mobile Home
04 - Utility Trailer
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06 - Towed Vehicle
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08 - Motorcycle Trailer
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10 - Other (ie. Bicycle)
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03 - Underride-No Compartment Intrusion
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Emergency Vehicle Use
01 - Yes 02 - No 99 - Unknown

Emergency Equipment Actuated
01 - Yes 02 - No 99 - Unknown

Special Function of MV in Transport
01 - None
02 - Police
03 - Ambulance/EMS
04 - Fire Truck
05 - Military
06 - Snow Plow
07 - Tow Truck
08 - MV used as School Bus
09 - MV used as Other Bus
10 - Construction Equipment
11 - Farm Equipment
12 - Taxi
13 - Train
99 - Unknown

Contributing Circumstance 1st choice / 2nd choice
01 - None
02 - Brakes
03 - Trailer Brakes
04 - Steering
05 - Power Train
06 - Suspension
07 - Tires
08 - Wheels
09 - Lights (Head, Signal or Tail)
10 - Windows/Windshield
11 - Rain/Snow/Ice on Windshield
12 - Tinted Windows
13 - Vehicle Cargo Blocking View
14 - Exhaust System
15 - Oversized Load
16 - Defroster
17 - Mirrors
18 - Wipers
19 - Truck Coupling/Trailer Hitch/Safety Chain
20 - Stalled Vehicle
21 - Cruise Control
22 - Other
99 - Unknown

Vehicle Maneuver/Action prior to crash
01 - Straight Ahead
02 - Backing
03 - Changing Lanes
04 - Overtaking/Passing
05 - Turning Right
06 - Turning Left
07 - Make U-Turn
08 - Leaving a Traffic Lane/Parking
09 - Entering a Traffic Lane
10 - Slowing
11 - Negotiating a Curve
12 - Parked
13 - Stopped in Traffic
14 - Driverless Motor Vehicle
15 - Trafficway Maintenance
16 - Other
99 - Unknown

Road Surface
01 - Concrete
02 - Asphalt
03 - Gravel/Rock
04 - Dirt
05 - Brick/Stone
99 - Unknown

Grade
01 - Level
02 - Hillcrest
03 - Uphill
04 - Downhill
05 - Sag (Bottom)
99 - Unknown

Horizontal Alignment
01 - Straight 03 - Curve Left
02 - Curve Right 99 - Unknown

Total No. Lanes
01 - 06, 99 = Unknown
(exclude turn lanes)

Traffic Control Working Properly
01 - Yes 02 - No 99 - Unknown

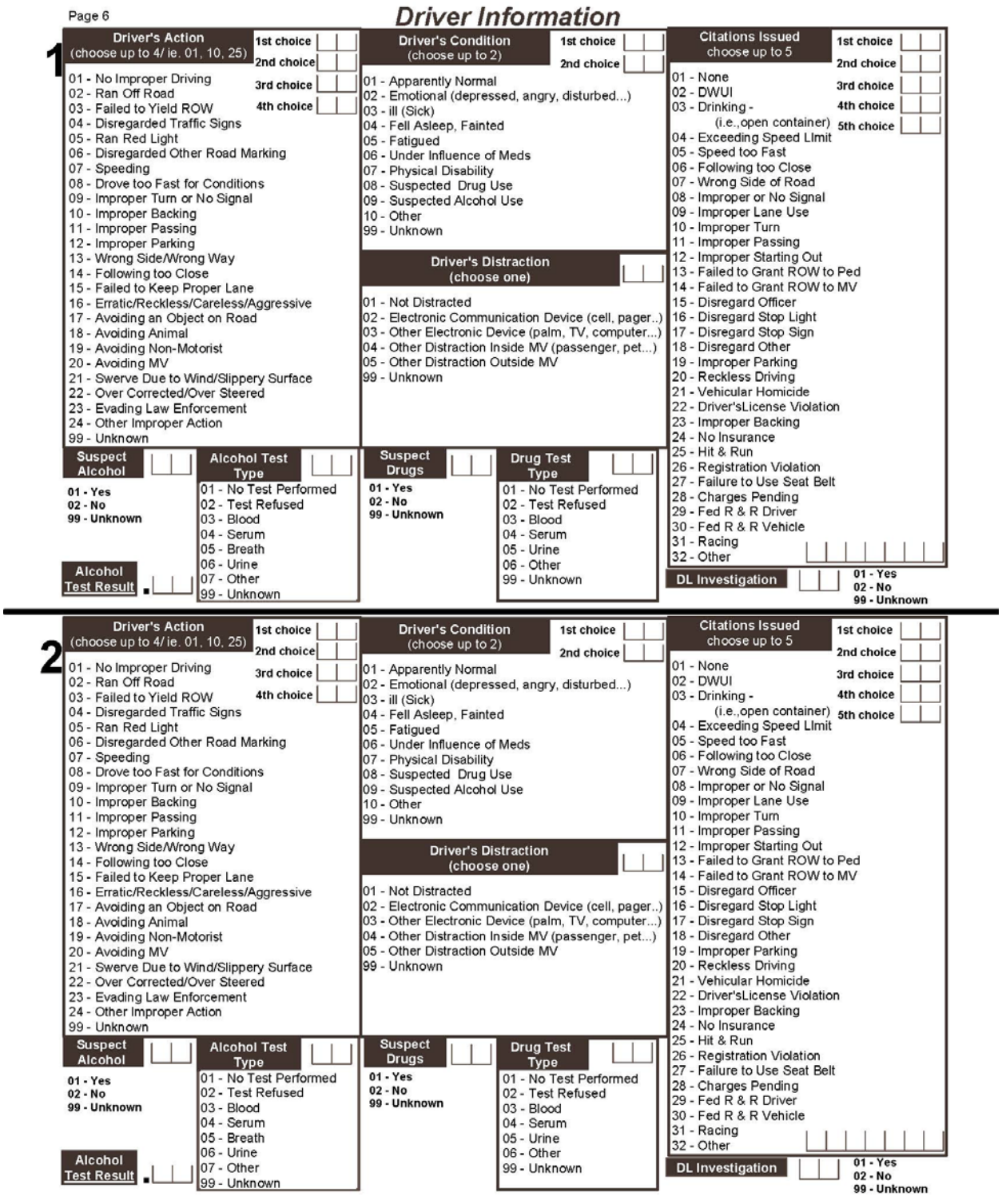
Traffic Control
01 - None
02 - Stop Sign
03 - Yield Sign
04 - Flashing Traffic Signal
05 - Do Not Enter Sign
06 - Traffic Signal
07 - Traffic Signal w/ Ped
08 - Traffic Signal w/ Ped & Audible Signals
09 - Person (Officer/Flagger, Xing Guard, etc)
10 - Pedestrian Crossing
11 - No Passing Zone
12 - Warning Signs
13 - Pavement Markings
14 - Traffic Barrels/Cones
15 - Temporary Jersey Barrier
16 - School Bus Flashing Stop Lamps
17 - School Zone Crossing
18 - RR Crossing Signal
19 - RR Crossing Signal & Gate
20 - RR Crossing Cross Buck Sign Only
21 - RR Crossing Cross Buck with Stop Sign
22 - RR Crossing Cross Buck with Yield Sign
23 - Other
99 - Unknown

Trafficway Description
01 - Two-Way-Undivided
02 - Two-Way-Undivided w/ Continuous Left Turn Lane
03 - Two-Way-Divided, No Barrier
04 - Two-Way-Divided, With Barrier
99 - Unknown

Rumble Strips Present
01 - Yes 02 - No 99 - Unknown

Rumble Strips Applicable
01 - Yes 02 - No 99 - Unknown

Rumble Strips
01 - None
02 - Centerline Rumble Strips
03 - Median Shoulder Only
04 - Transverse Rumble Strips (Road Apprch)
05 - Both Shoulders
06 - Both Centerline and Outside Shoulder
07 - Outside Shoulders Only
99 - Unknown


Page 6
Driver Information
1
Driver's Action (choose up to 4/ ie. 01, 10, 25)
1st choice
2nd choice
3rd choice
4th choice
01 - No Improper Driving
02 - Ran Off Road
03 - Failed to Yield ROW
04 - Disregarded Traffic Signs
05 - Ran Red Light
06 - Disregarded Other Road Marking
07 - Speeding
08 - Drove too Fast for Conditions
09 - Improper Turn or No Signal
10 - Improper Backing
11 - Improper Passing
12 - Improper Parking
13 - Wrong Side/Wrong Way
14 - Following too Close
15 - Failed to Keep Proper Lane
16 - Erratic/Reckless/Careless/Aggressive
17 - Avoiding an Object on Road
18 - Avoiding Animal
19 - Avoiding Non-Motorist
20 - Avoiding MV
21 - Swerve Due to Wind/Slippery Surface
22 - Over Corrected/Over Steered
23 - Evading Law Enforcement
24 - Other Improper Action
99 - Unknown
Driver's Condition (choose up to 2)
1st choice
2nd choice
01 - Apparently Normal
02 - Emotional (depressed, angry, disturbed...)
03 - ill (Sick)
04 - Fell Asleep, Fainted
05 - Fatigued
06 - Under Influence of Meds
07 - Physical Disability
08 - Suspected Drug Use
09 - Suspected Alcohol Use
10 - Other
99 - Unknown
Driver's Distraction (choose one)
01 - Not Distracted
02 - Electronic Communication Device (cell, pager..)
03 - Other Electronic Device (palm, TV, computer...)
04 - Other Distraction Inside MV (passenger, pet...)
05 - Other Distraction Outside MV
99 - Unknown
Citations Issued choose up to 5
1st choice
2nd choice
3rd choice
4th choice
5th choice
01 - None
02 - DWUI
03 - Drinking - (i.e.,open container)
04 - Exceeding Speed Limit
05 - Speed too Fast
06 - Following too Close
07 - Wrong Side of Road
08 - Improper or No Signal
09 - Improper Lane Use
10 - Improper Turn
11 - Improper Passing
12 - Improper Starting Out
13 - Failed to Grant ROW to Ped
14 - Failed to Grant ROW to MV
15 - Disregard Officer
16 - Disregard Stop Light
17 - Disregard Stop Sign
18 - Disregard Other
19 - Improper Parking
20 - Reckless Driving
21 - Vehicular Homicide
22 - Driver'sLicense Violation
23 - Improper Backing
24 - No Insurance
25 - Hit & Run
26 - Registration Violation
27 - Failure to Use Seat Belt
28 - Charges Pending
29 - Fed R & R Driver
30 - Fed R & R Vehicle
31 - Racing
32 - Other
DL Investigation
01 - Yes
02 - No
99 - Unknown
Suspect Alcohol
01 - Yes
02 - No
99 - Unknown
Alcohol Test Type
01 - No Test Performed
02 - Test Refused
03 - Blood
04 - Serum
05 - Breath
06 - Urine
07 - Other
99 - Unknown
Alcohol Test Result
Suspect Drugs
01 - Yes
02 - No
99 - Unknown
Drug Test Type
01 - No Test Performed
02 - Test Refused
03 - Blood
04 - Serum
05 - Urine
06 - Other
99 - Unknown
2
Driver's Action (choose up to 4/ ie. 01, 10, 25)
1st choice
2nd choice
3rd choice
4th choice
01 - No Improper Driving
02 - Ran Off Road
03 - Failed to Yield ROW
04 - Disregarded Traffic Signs
05 - Ran Red Light
06 - Disregarded Other Road Marking
07 - Speeding
08 - Drove too Fast for Conditions
09 - Improper Turn or No Signal
10 - Improper Backing
11 - Improper Passing
12 - Improper Parking
13 - Wrong Side/Wrong Way
14 - Following too Close
15 - Failed to Keep Proper Lane
16 - Erratic/Reckless/Careless/Aggressive
17 - Avoiding an Object on Road
18 - Avoiding Animal
19 - Avoiding Non-Motorist
20 - Avoiding MV
21 - Swerve Due to Wind/Slippery Surface
22 - Over Corrected/Over Steered
23 - Evading Law Enforcement
24 - Other Improper Action
99 - Unknown
Driver's Condition (choose up to 2)
1st choice
2nd choice
01 - Apparently Normal
02 - Emotional (depressed, angry, disturbed...)
03 - ill (Sick)
04 - Fell Asleep, Fainted
05 - Fatigued
06 - Under Influence of Meds
07 - Physical Disability
08 - Suspected Drug Use
09 - Suspected Alcohol Use
10 - Other
99 - Unknown
Driver's Distraction (choose one)
01 - Not Distracted
02 - Electronic Communication Device (cell, pager..)
03 - Other Electronic Device (palm, TV, computer...)
04 - Other Distraction Inside MV (passenger, pet...)
05 - Other Distraction Outside MV
99 - Unknown
Citations Issued choose up to 5
1st choice
2nd choice
3rd choice
4th choice
5th choice
01 - None
02 - DWUI
03 - Drinking - (i.e.,open container)
04 - Exceeding Speed Limit
05 - Speed too Fast
06 - Following too Close
07 - Wrong Side of Road
08 - Improper or No Signal
09 - Improper Lane Use
10 - Improper Turn
11 - Improper Passing
12 - Improper Starting Out
13 - Failed to Grant ROW to Ped
14 - Failed to Grant ROW to MV
15 - Disregard Officer
16 - Disregard Stop Light
17 - Disregard Stop Sign
18 - Disregard Other
19 - Improper Parking
20 - Reckless Driving
21 - Vehicular Homicide
22 - Driver'sLicense Violation
23 - Improper Backing
24 - No Insurance
25 - Hit & Run
26 - Registration Violation
27 - Failure to Use Seat Belt
28 - Charges Pending
29 - Fed R & R Driver
30 - Fed R & R Vehicle
31 - Racing
32 - Other
DL Investigation
01 - Yes
02 - No
99 - Unknown
Suspect Alcohol
01 - Yes
02 - No
99 - Unknown
Alcohol Test Type
01 - No Test Performed
02 - Test Refused
03 - Blood
04 - Serum
05 - Breath
06 - Urine
07 - Other
99 - Unknown
Alcohol Test Result
Suspect Drugs
01 - Yes
02 - No
99 - Unknown
Drug Test Type
01 - No Test Performed
02 - Test Refused
03 - Blood
04 - Serum
05 - Urine
06 - Other
99 - Unknown

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Base Information

FIRST HARMFUL EVENT

Non - Collision:
01 - Overturn/Rollover
02 - Fire/Explosion
03 - Immersion
04 - Jacknife
05 - Cargo/Equipment Loss or Shift
06 - Fell/Jumped from a motor vehicle
07 - Thrown or Falling Object
08 - Carbon Monoxide (CO) Poisoning
09 - Injuries by being thrown against part of the vehicle
10 - Other Non-Collision (Motorcycle Loss of Control)

Collision w/ Person, MV, or Non-Fixed Object:

11 - Pedestrian
12 - Motor Vehicle in Transport on Roadway
13 - Motor Vehicle on OTHER Roadway
14 - Parked Motor Vehicle
15 - Railway Vehicle
16 - Pedacycle
17 - Work Zone/Maintenance Equipment
18 - Work Zone Channeling Device
19 - Object Set in Motion by Another Vehicle
20 - Other NON-Fixed Object

Animals:

21 - Horse
22 - Cow
23 - Pig
24 - Sheep
25 - Other Domestic (Dog, Llama, etc)
26 - Elk
27 - Deer
28 - Moose
29 - Antelope
30 - Buffalo
31 - Other Wild (Bear, Coyote, Eagle)

Collision w/ Fixed Object

32 - Guardrail End
33 - Guardrail Face
34 - Impact Attenuator/Crash Cushion
35 - Bridge Pier or Support
36 - Bridge Overhead Structure
37 - Bridge Rail
38 - Concrete Traffic Barrier/Jersey Barrier
39 - Other Traffic Barrier (Includes temporary)
40 - Utility Pole/Light Support
41 - Traffic Signal Support
42 - Overhead Traffic Sign
43 - Sign Support Single Post
44 - Sign Support Multiple Post
45 - Other Traffic Sign Support
46 - Barricade
47 - Tree/Shrubbery
48 - Cut Slope
49 - Road Approach
50 - Rock, Boulder, Rock Slide
51 - End of Drainage Pipe/Structure/Culvert
52 - Building or Other Structure Wall
53 - Fence (Including Post)
54 - Raised Median or Curb
55 - Delineator Post
56 - Earth Embankment/Berm
57 - Ditch
58 - Snow Embankment
59 - Mail Box
60 - Tunnel
61 - Cattle Guard
62 - Fixed Object Other

99 -Unknown

Location of FHE

01 - On Roadway
02 - Off Roadway
03 - Shoulder
04 - Median
05 - On OTHER Roadway
06 - Outside of ROW
07 - Gore
08 - Separator
09 - In Parking Lane/Zone
10 - Tunnel
11 - Bridge
12 - Port of Entry
13 - Rest Area
99 - Unknown

Weather (1st choice / 2nd choice)

01 - Clear
02 - Raining
03 - Snowing
04 - Fog
05 - Blowing Dust/Sand/Dirt
06 - Severe Wind Only
07 - Blizzard
08 - Sleet/Hail/Freezing Rain
09 - Blowing Snow
10 - Cloudy, Overcast
11 - Smoke
12 - Other
99 - Unknown

Road (1st choice / 2nd choice)

01 - Dry
02 - Wet
03 - Ice/Frost
04 - Snow
05 - Mud/Dirt/Gravel
06 - Slush
07 - Oil/Fuel
08 - Sand on Dry Pavement
09 - Sand on Icy Road
10 - Water standing/Running
11 - Other
99 - Unknown

Lighting

01 - Daylight
02 - Darkness Unlighted
03 - Darkness Lighted
04 - Dawn
05 - Dusk
06 - Other
99 - Unknown

School Bus Related

01 - No
02 - Yes, Directly Involved
03 - Yes, Indirectly Involved

Road Circumstance (choose up to 3)

1st choice / 2nd choice / 3rd choice

01 - None
02 - Road Surface Condition
03 - Debris, lose material on the surface
04 - Ruts, Holes, Bumps
05 - Work Zone/Construction Zone
06 - Worn or Polished Surface
07 - Obstruction in Roadway
08 - Traffic Control Device Missing
09 - Traffic Control Device Inoperative
10 - Traffic Control Device Obscured
11 - Shoulders (None, Low, Soft, High)
12 - Non- Highway Work
13 - Reduced Road Width
14 - Lane Markings Missing or Faded
15 - Obstructed by a Previous Crash
16 - Other
99 - Unknown

Environmental Circumstance (choose up to 3)

1st choice / 2nd choice / 3rd choice

01 - Weather Conditions
02 - Visual Obstruction Buildings
03 - Visual Obstruction Other Vehicle
04 - Visual Obstruction Vegetation
05 - Visual Obstruction Hillcrest
06 - Visual Obstruction Embankment-Snow, Rock,etc
07 - Other Physical Obstruction
08 - Glare (Sun or Headlight)
09 - Animals in Roadway
10 - Other
11 - None
99 - Unknown

Work Zone Related

01 - Yes 02 - No 99 - Unknown

Work Zone Workers Present

Work Zone Location

01 - Before the First Warning Sign
02 - Advance Warning Area
03 - Transition Area
04 - Activity Area
05 - Termination Area
99 - Unknown

Type of Work Zone

01 - Lane Closure
02 - Lane Shift or Crossover
03 - Work on Shoulder/Median
04 - Intermittent or Moving Work
05 - Other
99 - Unknown

Relation to Junction

Non-Interchange Area
01 - Non-Junction
02 - Intersection
03 - Intersection Related
04 - Driveway Related
05 - Entrance/Exit Ramp
06 - Railway Grade Crossing
07 - Crossover Related
08 - Business Entrance
09 - Alley
10 - Other Non-Interchange (ie. Bike, Snowmobile Trail, School Xing)
99 - Unknown (describe in narrative)

Interchange Area
12 - Thru Roadway
13 - Intersection
14 - Intersection Related
15 - Ramp
16 - Other Parts (Gore)
99 - Unknown Interchange

Type of Intersection

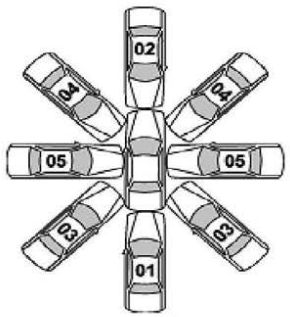
01 - Not an Intersection
02 - Four (4) -Way Intersection
03 - T Intersection
04 - Y Intersection
05 - Five (5) Point or more
06 - Intersection as part of an Interchange
07 - Roundabout
99 - Unknown

Manner of Collision (*see below)

01 - Not a Collision w/2 Vehicles in Transport
02 - Rear End (Front to Rear)
03 - Head On (Front to Front)
04 - Angle Same Direction (Front to Side)
05 - Angle Right (Front to Side, includes Broadside)
06 - Angle Direction not Specified
07 - Sideswipe Same Direction (Passing)
08 - Sideswipe Opposite Direction (Meeting)
09 - Rear to Side (Normally Backing)
10 - Rear to Rear (Normally Backing)
11 - Rear to Front (Normally Backing)
12 - Other
99 - Unknown

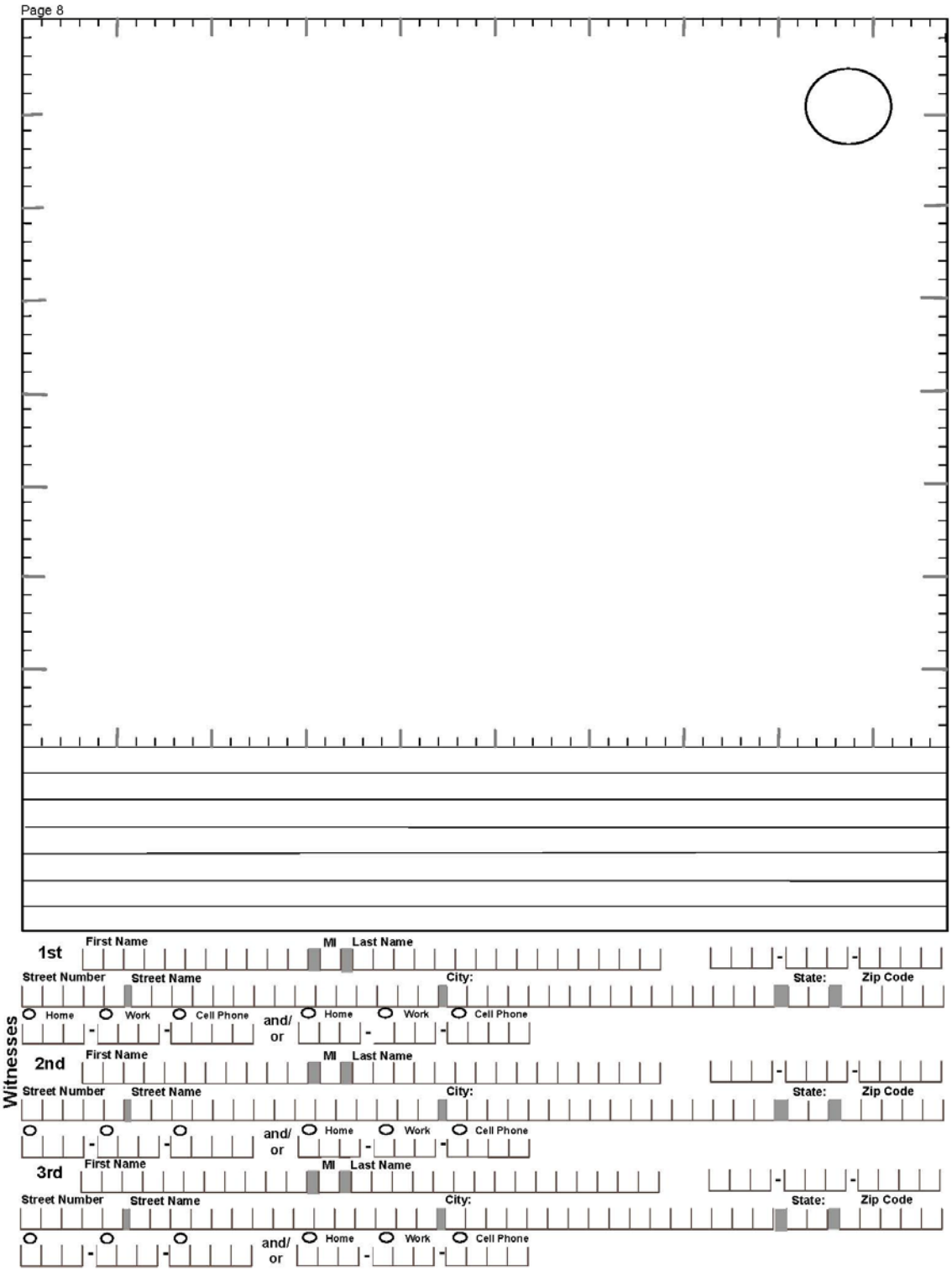
Direction of Force

01 - Opposing (Opposite Direction within 15 degrees)
02 - Angle (force exceeds 15 degrees)
03 - Same (same direction within 15 degrees)
04 - Meeting (glancing collision from opposite direction)
05 - Passing (glancing collision from same direction)
99 - Unknown



Manner of Collision CLARIFICATION

01 - Rear End (Front-to-Rear)
02 - Head-on (Front-to-Front)
03 - Angle (Front-to-Side), Same Direction
04 - Angle (Front-to-Side), Opposing Direction
05 - Angle (Front-to-Side), Right Angle/Broadside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Witnesses
1st
First Name
MI
Last Name
Street Number
Street Name
City:
State:
Zip Code
Home
Work
Cell Phone
and/
or
Home
Work
Cell Phone
2nd
First Name
MI
Last Name
Street Number
Street Name
City:
State:
Zip Code
and/
or
Home
Work
Cell Phone
3rd
First Name
MI
Last Name
Street Number
Street Name
City:
State:
Zip Code
and/
or
Home
Work
Cell Phone