THE NEED FOR AN EMERGENCY VEHICLE OPERATING TRAINING PROGRAM

EXECUTIVE DEVELOPMENT

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ABSTRACT

The Omaha Fire Department began to experience an increase in emergency vehicle accidents beginning in January 2000. The problem was that the instructor for the Emergency Vehicle Operator (EVO) class was reassigned and the EVO program was put on hold 6 months prior to the rise in accidents. The purpose of the research project was to conduct an in-depth study into the area of Emergency Vehicle Operations (EVO) training and to provide recommendations for forming a comprehensive EVO program.

Action research was used by this author. The following research questions were asked:
1. What liability does a city incur by not having an Emergency Vehicle Operator training program?
2. What Standards provide guidance to fire departments for emergency vehicle operation and training programs?
3. What unique items need to be covered in an Emergency Vehicle Operations course?
4. What are other cities around the country doing for Emergency Vehicle Operator training?

The procedures used to complete this research consisted of a records review, a literature review, and a survey instrument which was sent to fire departments around the United States.

The results of this research included the substantiation of past research done by others, the identification of variation in course content and objectives by various fire department EVO programs, consensus standards used to develop EVO training programs, and the compilation of items that are unique to emergency vehicle operator training.

The recommendations of this research project included the review of course content, the review of the hands-on portion and driver’s simulation, and further research into new technology
as teaching adjuncts. In addition, recommendations were made for better tracking of course participants and stricter adherence to fire department policy.
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INTRODUCTION

The Omaha Fire Department recognized a need for an Emergency Vehicles Operator training course in 1995. The course was designed and taught by a senior Fire Apparatus Engineer (FAE) assigned to the training bureau. Due to budget constraints in 1999, the course was put on hold and the FAE was reassigned to a fire suppression company. Out of an eighteen month period, the FAE was working in the training bureau for only nine months. In that nine month period, the FAE was also given the duty of teaching other training courses that did not deal with EVO training. The problem is that the Omaha Fire Department does not have a pro-active Emergency Vehicle Operator training course devoted solely for the purpose of driver training.

The purpose of the research was to conduct in-depth research into the area of Emergency Vehicle Operations (EVO) training and to provide recommendations for forming a comprehensive EVO program for the Omaha Fire Department. This researcher will use active research. The following researched questions were asked:

1. What liability does a city incur by not having an Emergency Vehicle Operator training program?
2. What consensus standards provide guidance to fire departments for Emergency Vehicle operators and programs?
3. What unique items need to be covered in an Emergency Vehicle training course?
4. What are other cities around the country doing for Emergency Vehicle training?
BACKGROUND & SIGNIFICANCE

Every year, since 1991, the Omaha Fire Department responded to over 26,000 emergencies. During this volume of responses, the department experienced vehicle accidents involving both fire apparatus and rescue squads. Administrative officials took notice in the early 90’s and began a course in Emergency Vehicle Operators (EVO). The course was developed and taught by training officials within the training bureau. In 1995, a senior FAE was transferred to the training bureau for the sole purpose of training emergency vehicle operators.

Due to budget constraints in 1999, the program was put on hold and the FAE was reassigned back to suppression. In an eighteen month period, the FAE was assigned to the training bureau for nine months. During the nine months in the bureau, the FAE was also assigned teaching tasks not related to drivers training. Due to the size of the Omaha Fire Department (over 600+ members), the job of reaching all possible emergency vehicle drivers in a 9 month period for continuing education proved to be an unobtainable goal.

Another problem, not readily recognized, was the increasing influx of new firefighters into the ranks as a result of a high retirement rate. These firefighters needed an entire program designed to teach EVO operations that covered all facets of emergency driver education. This fact comes to life when one looks at the chart graphing time on the job, and how long they had been driving an emergency vehicle when they were involved in an accident (App A). When charting employees who were involved in accidents, total time on the job, time spent in the driving position, and whether the employee has had a previous EVO class, one easily sees that 50% of the accidents involved newer employees with no formal EVO training (App B).
During any emergency incident, the need for a safe response to and from the emergency scene must be of high importance. “As you negotiate traffic on an emergency run, the safety of the passengers and the public must remain uppermost in your mind” (Stacks, 1989). As Adams (1995) points out, “As our roads become more crowded, it is becoming increasingly more common for emergency vehicles to be involved in crashes” (p.14).

According to Hatton (1988), in 1985, twenty-three firefighters were killed and 5,280 firefighters were injured due to vehicle accidents. In 1987 the fatalities increased to thirty-three. Wilbur (2000) states, twenty-seven firefighters died in apparatus accidents in 1999. As one can see, the problem of accidents involving fire department apparatus continues to be a problem for the nation’s fire departments.

It is the responsibility of Executive Fire Officers on all fire departments to recognize the need for an EVO program. The following research will explore the areas vital to forming a top level Emergency Vehicle Operator Program.
Literature Review

Research on emergency vehicle accidents and programs designed to reduce emergency vehicle accidents was done using the National Fire Academy Learning Resource Center (LRC) located in Emmitsburg, Maryland. Internet use of the card catalog, and assistance by personnel at the Sump Memorial Library in Papillion, NE with the Interlibrary Loan program provided many of the resources. Specific items unique to the Omaha Fire Department were gathered from yearly reports and statistics documented by the Omaha Fire Department.

Liabilities and responsibilities incurred by a city operating a fire department

Rossman P.C. (1995), an attorney in Boston, Massachusetts, recognized by reading fire and EMS trade journals, “…the most likely source of injury or death in connection with your fire department duties involves a traffic accident responding to or returning from an incident” (p. 15). Knowing that accidents are a source of injury, he also stated that, “…the greatest chance of being named in a lawsuit in connection with your fire department duties is out of your operation of the emergency vehicle” (p. 15). He states that Executive Fire Officers should be aware that, “The greatest chance of being involved in the legal system arises out of vehicle operation (and supervision)” (p. 41).

Department policies and standing orders specific to driver procedures need to be written down. According to Hess (1993), “It is absolutely critical that specific written procedures for emergency vehicles be developed, distributed, reviewed, and enforced. Having detailed regulations aid in enforcement and disciplinary proceedings, as well as providing evidence in your defense should you ever have to appear in court on an accident involving one of your drivers” (p.9).
Wilbur (1995) further emphasizes the need for driver training and documentation. He states that just as giving training to the fire department personnel is imperative, the record keeping of the class and documentation of the course content must be complete. Failure to do this may result in your department going to civil court named in a lawsuit. According to Wilbur, “When you walk into court without such training and records there won’t be a question of your guilt or innocence, resign yourself that you need only to bring the fire department’s check book to court and ask how much it’s going to cost” (p.20). Wilbur continues with an in-depth review of training guidelines and the need for proper documentation. His view is very pro-training and promotes the use of a formal driver’s program with complete details of class content documented appropriately.

Wilbur (1994) talks about the liabilities a fire department accepts when it puts a fire truck on the street. In 1993, twenty firefighters lost their lives as a result of an emergency vehicle accident. When a fire department apparatus is involved in an accident, the following may occur: the loss of life or severe injuries, negative community reaction, lengthy rehabilitation of the injured parties, a lengthy court battle to prove who was negligent, mental scars left with the driver of that apparatus, the used sick leave hours, possible pension benefits to the injured fire firefighters, and the cost of repairing or replacing the apparatus. The court fees and repair bills alone will be staggering. With today’s budgets, this could pose a tax burden upon the constituents of the city. Wilbur states, “Absolutely nobody wins when a major fire apparatus accident occurs” (p. 76).
What consensus standards are available to assist in developing an EVO program?

The National Fire Protection Association (NFPA) is an international non-profit organization that annually reviews and updates all standards that pertain to fire safety, building codes, firefighter clothing specifications, apparatus specifications, etc. Also included are standards concerning emergency driver education programs and emergency vehicle operator programs that are readily available to all fire departments. These standards are minimum standards and are usually enforced by legislation at the state level.

As they are minimum standards, there are limitations to each standard. The content of each standard may not completely cover your fire department. Each department will have to evaluate their needs and choose the appropriate standards that are relevant to their type of operation. The standards are designed to be used as a guide to assist fire officers in the fulfillment of their responsibilities as Executive Fire Officers. A fire department may find that additional resources will be needed to fulfill their EVO training needs.

Job performance standards are commonplace throughout most business applications and are prevalent throughout the fire service. NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications* (1998) is the document for the fire service that sets job performance standards. It goes into great detail to explain the various driving exercises that all apparatus drivers must successfully pass in order to remain an active driver of an emergency vehicle. Included in this list are aerial operator, pump operator, wildland apparatus operator, water tank tender, rear-tiller operator, aircraft rescue, fire-fighting apparatus operator, etc. (p. 1002-6). It is important that only sections of the standard, relevant to your department, be adopted for your particular fire department as the standards cover all types of
driver applications in the fire service. Also, NFPA 1002 gives the minimum requirements necessary to train and test emergency vehicle operators.

NFPA 1451, *Standard for a Fire Service Vehicle Operations Training Program* (1997), covers the, “the development, implementation, and periodic review of standard operating procedures for driving any fire department vehicles is an important element in clearly identifying the fire department’s policy on what is expected of drivers” (p. 1451-4). It is a comprehensive consensus standard covering the minimum requirements for a fire service vehicles training programs. The policy is very explicit and states that, “Fire department members shall be trained to operate specific vehicles or classes of vehicles before being authorized to drive or operate such vehicles” (p. 1451-5). Safety is the key issue in this standard. The intent of this consensus standard is to prevent accidents, injuries, exposures, and to reduce the severity of those accidents, injuries, and exposures that do occur (p. 1451-4). How often does a fire department provide training to its members? According to NFPA 1451, “…as often as necessary, but not less than twice a year.” The standard continues with subject categories and sub-categories which state the content of an EVO training program. Sound, time tested, and complete information is found in this standard.

NFPA 1500, *Standard for Vehicles, Equipment, and Drivers states* (2000), “The driver of any vehicle has a legal responsibility for its safe and prudent operation at all times” (p. 1500-11). This consensus standard is a minimum requirement set by the NFPA to give explicit information about the responsibilities of all firefighters while performing their job function.

Not every state has adopted the NFPA Standards. Therefore, not all fire departments follow these standards. However, it must be noted that these are national standards and viewed
as minimal standards. By not following these standards, and/or improving upon them, the Executive Fire Officer assumes the responsibility for the city and himself for the risk(s) taken.

**Innovative EVO training programs and course content**

Rossman (1994) preaches, “Institute a bona fide training program for apparatus drivers” (p. 41). He believes that everyone who drives should be certified for driving duty and that the drivers shall be re-certified every three years. A comprehensive classroom program and a hands-on session will be given to the operators. The hands-on session will be on the apparatus floor and deal with items such as: braking, backing, operating manuals of apparatus, and special safety features built into the apparatus. Following the hands-on training, there will be an actual driving course where the operators practice the skills taught in the classroom.

According to Klein and Lane (1996), “An effective emergency vehicle operation program shall educate personnel about safe emergency vehicle operations and promotes the idea of safety through avoidance of accidents. In addition, personnel will have an understanding of the legal issues and liabilities that affect them when ever they operate an emergency response vehicle” (pp. 106-107).

Hess believes that there are several safety components that must be incorporated into a driver training program. They are:

- **Attitude** – “making certain that the vehicle arrives at the scene is the only way to aid any one in a crisis. The emergency vehicle driver must understand that efficiency is measured in the time it takes them to reach the emergency scene and not the time it takes to from 0 to 60” (p. 9).
• Knowledge – Teach physics to the drivers. Make sure they know the difference between the weight of their personnel car (3000 lbs.) and a 30,000 lbs. fire truck (p.9).

All drivers and potential drivers shall have full knowledge of all standing orders and written procedures regarding the operation of all fire apparatus (p. 9). Intersection approach procedures should be discussed and practiced at a controlled location as the majority of severe injury accidents occur in intersections (p.9).

Culley discusses accident avoidance and the “safe” response. There are three components that are related in a safe response; the driver, the vehicle, and the road/travelling conditions. He states that, “A problem with any of the three can be disastrous” (p.15). The driver must be familiar with his vehicle and do a complete safety check at the start of each shift. He is very adamant about speed. Culley states, “Speed and response must take into consideration with the weather and road conditions, traffic conditions, visibility and the handling of the vehicle. Drive at a speed you are comfortable with and within the maneuverability of the vehicle” (p. 16).

Holst (1996) points out that on the street simulated training is so very important. Not only is practicing accident avoidance necessary, it must be practiced with the actual apparatus that the drivers that will be using on a daily basis. The use of state-of-the-art technology (anti-lock brakes, automatic traction control, and Telma retarders) in our apparatus must be put to the test by the drivers. Through the use of actual accident avoidance skills on a test track, not only the drivers can be tested, but the equipment on the apparatus as well. Holst has found that, “Drivers are now better trained, more confident and much more likely to avoid collisions” (p. 6).
“Perhaps the greatest lesson learned is that we will never know how well our new technology will perform until we take it out and push it to its limits” (p. 7).

Wilbur (1995) says that the fire department should, “Every three years, run a department of motor vehicles report check on every driver and potential drivers. Be aware of the violations on their record and set a policy for maximum violations that will cause the driving privileges to be terminated until proper training has occurred and the violations are no longer on their record” (p. 24).

**Informational survey gathering information about EVO programs in use in other cities**

A survey was sent out to twenty fire departments around the country (App. C). The participating cities represented all climate areas, both coasts, and Alaska (App. D). Due to a variable climate in Omaha, NE, this element will add additional value to the survey. The results will vary due to the inherent operating differences between the departments. However, there are some main issues relevant to EVO programs that are the same. The survey addresses these items.

Fourteen out of the fifteen surveys returned, responded that they have an active EVO training program. Those with EVO programs are found to have a wide variety in content and responsibility.

In the state of Vermont, the state requires that all operators to have a defensive drivers class taught to them every five years. The state reps. teach this class and it is only at the classroom level. The city surveyed does not require any additional training above the state requirements. Other cities, in other states, require training to occur every year, do the training themselves, and require a hands-on operation class.
The cities which have a hands-on driving class, use some type of driving course. These courses vary. Some use city streets, while others have custom designed courses. The custom designed courses require a large amount of space. Some cities do not have this space and have been resourceful in solving this problem. The fire departments have combined resources with other communities to have a multi-city driving course. Others have combined resources with other city departments, such as police and public works, and have constructed courses as a cost saving measure for tax payers.

All departments investigate accidents involving their emergency vehicles. However, not all discipline the employee if they are found at negligent. Instead, they use the accident investigation information as an educational tool. Some departments believe that if discipline is given, it is an automatic admission of guilt and may be used against the city if the accident would go to civil court.

Other departments take the investigation another step further. In Marin County, Florida, when the monetary value of the damage exceeds $1,000.00, the driver of the apparatus involved will automatically take a drug screening test. This is another way of the city decreasing its liability.
Procedures

This research project used the action research methodology to:

a) examine liabilities incurred by a city if they do not have an emergency vehicle operator training program.

b) research all standards that apply to an emergency vehicle operator training program and emergency vehicle operators.

c) research different and newer approaches to EVO training programs.

d) look at fire departments around the country and examine their EVO training programs.

The procedures used to complete this research included a literature review, a review of Omaha Fire Dept. accident and training records, and a survey of fire departments around the country to get an overview of current EVO training programs.

Literature Review

The literature review began at the National Fire Academy’s Learning Resource Center (LRC) on June 16, 2000. Research continued at the Sump Memorial Library in Papillion, Nebraska using the Internet and the online card catalog at the LRC.

The review examined trade journals, NFPA standards, safety and health manuals, and statistical books from the U.S. Fire Administration. Relevant sources were summarized and included in the literature review.

Review of Omaha Fire Dept. emergency vehicle accidents, and training and personnel assignment statistics

During the month of September, interviews were conducted with Omaha Fire department personnel to obtain statistical information about training programs, length of time personnel were
assigned to the programs, and accident information. Annual reports were used to aid in the compilation of the data.

**Informational survey used to acquire data on EVO training programs around the country**

An informational survey was sent to various fire departments around the country (App. C). The cities were chosen at random. Locations of the cities were to be variable to account for variable weather patterns and geographical inconsistencies. Cultural and variable views to training were to be obtained and analyzed. The questions were given with yes and no answers to decrease the possibility of personnel influences on the data, but a comment section was included so that more detailed explanations may be given. Twenty copies of the survey were sent to participants across the country. Of those, 15 were returned. The response rate was 75%.

**Assumptions**

This author collected all literature, data, and statistical data with the thought that all other authors were truthful in their research. It is assumed that all participants in the survey provided accurate data about their fire department EVO training program.

**Limitations**

Limitations that affected this research project were time, availability of a more comprehensive and detailed data base of fire department EVO training programs, and the assumption the respondents replied in a truthful manner.
It is assumed that the person who answered the survey was knowledgeable about the subject and did not hold any predetermined biases. Such factors, if they occurred, are beyond the control of this author.

**Definitions**

**Acting** – This term applies to times when employee temporarily moves up the job classification scale to fill in for the regular employee who may be off on sick leave or vacation.

**Apparatus** – a vehicle utilized for transportation of firefighters and equipment to a fire, rescue, or medical scene. The piece of equipment may be specialized or multi-functional.

**Apparatus Floor** – A term given to the area of a fire station where the fire trucks are parked.

**Emergency Vehicle** – A generic term used in this report to describe a vehicle such as a fire truck, or rescue squad.

**Fire Apparatus Engineer (FAE)** – This term is specifically given to an employee whose main job description is driving a fire truck.

**Suppression** – Broad term used to describe the job area in the fire service dedicated to firefighting and rescue activities.
Results

What liability does a city incur by not having an Emergency Vehicle training program?

A city assumes a large amount of liability just by putting an emergency vehicle on the street. Liabilities range from unforeseen vehicle accidents that may, or may not be the city’s fault. Whether or not the city is at fault, there are always negative images seen by the public eye. If the city is found at fault, the amount of financial responsibility of the may be enormously high depending upon whether the injured received a bruise, or died in the accident. Judgements from the court system have ranged from no award for damages to millions. If a city is self-insured, financial havoc may befall your city budget. If insured by the private sector, an increase in rates may be a result, or even the cancellation of the liability insurance policy.

Medical hardship maybe felt by the city, both financially and physically. The amount of money spent rehabilitating the injured firefighters may be staggering. Time spent in rehabilitation will mean additional overtime dollars every minute the firefighter is off work. As the rate of accidents increases, the medical costs will increase. If the city is self-insured, the budget will no doubt be in the red. As an Executive Fire Officer, the city administrators and city fathers will look to you for answers as to why this is happening and what you are doing to change this occurrence of events and financial drain to the city.

It would be foolish for a fire department not to have a bona-fide Emergency Vehicle Operating training program. The cost of the program may not be easily seen if it is a comprehensive program designed to fully train all emergency vehicle operators. But are guaranteed that the cost will be noticed after the first accident where the city is found at fault and serious injuries occurred to firefighter or a civilian.
What standards exist today which provide guidance for fire departments to follow for emergency vehicle operators and programs?

The National Fire Protection Association provides an excellent basis for the minimum standards for fire apparatus operators, emergency vehicle operator training programs, firefighter responsibilities, and etc. The in-depth research done by the NFPA is second to none. Executive Fire Officers are fortunate that this organization exists to serve them in their task of operating a fire department.

NFPA 1002 provides the basis for fire apparatus operators. A comprehensive guide of required driving skills and applicable items to be tested are in this standard. Information for the development of actual test development and the setting of parameters for a driving course have been developed and will aid the officer in making a program specific to the drivers on your department.

NFPA 1451 is a comprehensive guide for the development of an EVO training program, in which specific details of classroom and driving course content are given. Certifying levels and recertification time lines have been developed in order to keep the drivers informed about driver safety. Unique items are listed for most emergency vehicle driving conditions found across the country. Care must be given to select those that appropriate for your department.

NFPA 1500 has been developed to define the roles and responsibilities of all firefighter with respect to the job description. Specific job qualifications are listed for each specific job description. Information is given for the requirements and responsibilities of fire apparatus driver/operators.

Fire department vehicles shall not be operated in an emergency or non-emergency manner by any member who has not been trained in the operation of that vehicle. Strict rules are given for the operation of the vehicle. Any vehicle which requires special operating knowledge,
policies detailing this information shall be in place. Any special safety equipment added to the apparatus must be included in the training and policies.

**What items need to be included in an Emergency Vehicle training course?**

- An EVO course must be a comprehensive classroom experience with a hands-on driving course. Classroom content and course design must be documented and outlined.
- The classroom curriculum must include all laws particular to the state in which the department is located. Specific attention must be given to current policies and procedures. Hard copies must be made for each individual to keep for their personal records. Driving practices need to be reviewed for inclement weather conditions. The “what-ifs” need to be answered and discussed in defensive driving subject area. What will the operator of the apparatus do if this happens? Above all, the operators need to be schooled that “safety” is the key element of responding to and returning from an incident.
- Any new technologies added to the apparatus need to be discussed. Specific safety items shall be covered such as: anti-lock brakes (ABS systems), retarders, automatic chains/traction control, etc. Familiarization of devices is necessary for safe vehicle operation.
- The class needs to move on to the apparatus floor of the fire station. Review of operating procedures for the operators particular piece of apparatus for which they are responsible. Shop and maintenance records need to be reviewed for accuracy and to make the operator aware of any recurring problems.
- All operators shall review current test procedures and items that must be tested during the daily and weekly checks.
• Hands-on training will include a driving course simulating backing, intersections, pre-trip safety inspections, and proper control of vehicles during the exercises. All personnel shall be monitored by a qualified driving training instructor.

• If possible, computerized technology used to simulate conditions that unusual, but possible to experience during an incident, shall be used. The ability to allow all operators to test their own apparatus under extreme conditions is a must. This will allow the operator know exactly how the apparatus will respond during an actual incident. It will also give fire administrators the opportunity evaluate the safety equipment added to the apparatus and to see if it performs to the measure for which it was designed.

• Quality research into current training programs will allow a fire department to implement a high quality training program for their own organization. Attention to detail will make the difference between an “excellent” or “mediocre” program. Remember, the difference between “excellent” or “mediocre” is the amount of liability you will assume as the Executive Fire Officer of your department.

What are other fire departments doing around the country for emergency vehicle operator training?

The review of the survey results show that there are many options available to aid in the development of an EVO course. It is noted that local and state laws need to be reviewed and compare the existing program to the laws in how they apply.

The updating of the training center, with the addition of a test driving track, would be a high priority item. Consideration in sharing the cost of the training center update with other police and public/city/county departments would be a crucial element when attempting to get public support on such a large expenditure.

Review of policies and possible changes involving drug testing may be appropriate.
It must be noted that contractual items, such as union contracts, or personnel rules may already address this issue. Further review from the local law department, which represents the fire department, is a necessity.
Discussion/Implementations

The results of informational fact finding involving the Omaha Fire Department OFD EVO training program revealed practices that do not follow the recommendations of others in the literature review. The OFD does not have a dedicated staff for the purposes of having a bona-fide EVO training program. Nor does it have a hands-on training session which allows operators to test the safety equipment and the limits of the equipment on their apparatus under simulated conditions. In addition, the OFD neglects to strictly adhere to the policy requiring all operators of apparatus to be EVO trained.

“Every fire department shall have some type of EVO training program.” is stipulated in NFPA 1451. Omaha does have an EVO program, and it falls short in covering all of the subjects as required in NFPA 1451. The realization that not all topics apply to the Omaha Fire Dept. is understood, but there are several sections which are skipped. The reason for the condensed versions is due to financial burdens caused by contract constraints. The EVO staff, which previously trained fire apparatus operators, was reassigned to lessen these financial burdens. The use of an EVO training program to reduce the risk of a lawsuit is nothing less than prudent. Rossman (1994) states the only way to lower this risk is to institute a bona-fide training program. Despite the recent rise in accident rates, the EVO training staff of the OFD, remain reassigned to suppression assignments.

NFPA standards, 1002, 1451, & 1500, state that all operators and potential operators shall have hands on training. Wilbur (1995) reflects on the need for hands-on driving simulations. Working in inclimate weather requires the fire service to train in inclimate weather, and this requires operator training in such weather. Holst (1996) offers compelling evidence that we must let the drivers test their vehicles under adverse conditions so that the drivers will know how
the apparatus will handle during actual incidents. Knowledge of deficiencies and efficiencies in
the handling of apparatus will create a more confident operator. A more confident and
knowledgeable operator will be less likely to be in an accident than one who is untrained.

The research has found that NFPA 1500 states that EVO training is recommended for
anyone who will drive an apparatus, and subsequently that piece of apparatus will not move
unless a qualified driver is operating the vehicle. Review of Omaha Fire Department accident
statistics show that 50% of the operators involved in accidents in 1999 did not have, or have not
completed all of the approved EVO class. Once again, budget constraints have forced the
administration to move the EVO trainer out of training causing cancellation of EVO classes.
Continued budget constraints have resulted in this action. Officials in the administration have
not responded to this statistic. Research supports the idea that it costs more in apparatus repairs,
repairs to civilian property, medical bills, injury rehabilitation, and overtime to replace the
worker, than it does to operate a dedicated EVO program.

The results of this research project present several implications for the Omaha Fire
Department. First, the instructor for the EVO program should be reassigned to the training
bureau and given the sole duty of teaching the emergency vehicle operator class. Secondly, the
program should be expanded to include actual driving of individual apparatus in simulated
conditions which challenge the equipment and the skills of the driver. Third, the program must
include all personnel. It must be on going and provide recertification in three years or less.
Anyone who fails the course should be forbidden to drive fire apparatus until that person
successfully completes the class.
**Recommendations**

The Omaha Fire Department needs to review and reorganize the Emergency Vehicle Operator training program (App. E). The EVO program needs to improve the quality of the class and comprehensiveness of content. It shall provide better documentation and follow-up to insure that all personnel are EVO trained. The OFD shall also have statistical data to substantiate course validity. This can be accomplished by tracking students to review the accident ratios of those who have the new class, compared to those previously trained under the old curriculum.

The areas to be reviewed should include staffing, classroom topics, operating characteristics of all vehicles, new and updated safety equipment on apparatus, documentation of course content, documentation of participants, new and innovative simulators to aid in the hands-on training, and a complete review of the hands-on portion and driving simulation.

Recommendations for the collection of data would include the compilation of computer training data, personnel records, causes of accidents, NFPA recommendations, technical manuals, and trade journals (looking for new advances in technology as training aids). Further research using the National Fire Academy Learning Resource Center in the areas of accident prevention and avoidance.

Data, specific only to the Omaha Fire Department and pertaining only to apparatus accidents, should be collected. The purpose is to review the data for monetary amounts spent on apparatus repairs, medical bills, lawsuit settlements, pension benefits, overtime payments for employee replacement, and the amount of times the fire department vehicles have been in accidents which lead to negative publicity.

A survey form should be developed to be given to all employees. This survey should be given before the new classes are developed to seek input about class content and concerns that
would be addressed in the new curriculum. Because the safety of all members is at stake, all personnel shall be surveyed. It must be remembered, employees can all learn something from each other.

Omaha Fire officials need to educate city administrators. After education is given to the officials about EVO programs, monies may be restored to the budget for EVO training. The revenue may be recouped elsewhere in the city budget in other departments. It must be pointed out that the long term goals and the decreasing risks of the city and fire officials being named in a lawsuit will be recognized. Prudent administrators will recognize they benefit when presented the information backed by solid, in-depth research.

Other organizations and future readers may also take the same steps used in this research paper to review their own organizations. Each organization may chose to alter the steps and go into more detail in certain or other areas to customize the review process to meet the specific needs of research project. A custom designed and more comprehensive survey of other fire departments could also be used which may provide results better suited for other organizations. Anytime a better EVO program can be developed, the fire service may respond to incidents in a safer manner. Thus providing a better service to citizens of the community.
References


Firehouse, 20.

Firehouse, 92.
APPENDIX A
Comparison of Accident Rate Bar Graph
APPENDIX B
Driver Experience/Time on the Job Bar Graph

Accidents by Vehicle Type - 1999 vs 2000
Appendix C

Survey Questions

1. Does your fire department have an emergency vehicle operators program?  
   Yes / No

2. If yes, does it have:   
   a. Classroom training?
   b. Hands-on driver training?
      1. custom driving track?
      2. street driving?
   c. Simulator training?

   Please circle your answer(s).

3. If a current driver fails a portion of the training, are they forbidden from driving 
   until successful completion of the class?  Yes / No

4. Does your department follow-up on accidents, investigate, and provide discipline, and/or 
   more training as necessary?  Yes / No

Comments (include any information that you believe makes your EVO program unique):_______________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Thank you for your participation.

Brian Sorensen  
Omaha Fire Department  
Omaha, NE
Appendix D

List of cities where the fire department survey was sent:

1. North Pole, Alaska
2. Redmond, Washington
3. Marin County, Florida
4. Baton Rouge, Louisiana
5. San Francisco, California
6. Los Angeles, California
7. Lincoln, Nebraska
8. Council Bluffs, Iowa
9. Los Alamos, New Mexico
10. Garland, Texas
11. Denver, Colorado
12. Sioux Falls, South Dakota
13. Satellite Beach, Florida
14. Minneapolis, Minnesota
15. Kansas City, Missouri
16. St. Louis, Missouri
17. Sioux City, Iowa
18. Spokane, Washington
19. Austin, Texas
20. Salt Lake City, Utah
APPENDIX E

OUTLINE OF PROPOSED EVO TRAINING CLASS CHANGES

I. Review all laws and make necessary changes to course content outline.
   A. State Laws.
   B. NFPA Standards.
   C. OSHA.
   D. Department of Transportation Guidelines.

II. Review Hands-on drivers training portion of class and make changes if possible to include:
   A. Create an evasive driving course.
      1. Simulate city streets.
      2. Simulate intersections.
   B. Test an apparatus while driving in extreme conditions.
      1. Accident avoidance vs. Braking.
      2. Slick surfaces.
      3. Simulate potential dangerous situations to test operators ability with their own apparatus.
         a. Accident avoidance.
         b. Braking.

III. Review all documentation procedures.
    A. Process of tracking all operators and potential operators.
       1. Successful completion of course.
       2. Unsuccessful completion of course.
    B. Institute testing procedures to demonstrate competence in EVO.
    C. Design new policies for:
       1. Passing criteria for class.
       2. Discipline for not passing course
          a. Removal from driving position.
          b. Reduction in pay to next lower scale.
          c. Reassignment to next available EVO training class.

IV. Create an EVO Committee for informational gathering purposes to find:
    A. Different types of driving tracks
       1. Driving test track.
       2. Slick test track.
       3. Computerized driving tracks.
    B. Driving Simulators.
    C. Government Grants.
    D. Contact other agencies for possible combined use facility.
       1. Police.
       2. County Sheriff.
       3. Rural Volunteer Fire Departments.
       5. State agencies