Running Head: RESPONSE MODE DETERMINATIONS

You Make the Call:

Officer-Discretion Response Mode Determination

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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: ________________________________
Abstract

In 2007, the Pleasant View Volunteer Fire Department implemented a program that allowed responding officers to determine the response mode (emergency or non-emergency) based on current circumstances and immediately available information. The problem was that the department did not know if this program was successfully reducing risk without negatively impacting incident outcomes. The purpose of this project was to utilize evaluative research to determine (a) the level of impact this program had on the number of emergency responses, (b) the level of negative impact the program had on incident outcomes, (c) the level of accuracy achieved by responding personnel in determining the appropriate response mode, and (d) any modifications necessary to increase program success.

Research included a review of existing literature on the topic, and incident response data analysis. Results indicated that this program had significantly reduced the number of lights and siren responses, while having essentially no negative impact on incident outcomes. Response mode decisions made at the time of the call, when compared to traditional means of determining response modes, were much more accurate. A series of recommendations were also made to improve on the success achieved by the program.
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Introduction

Emergency response by fire apparatus exposes fire fighters and members of the general public to a high level of risk for injury or death. The United States Fire Administration provisional reports state that 15.8% of fire fighter deaths in 2012 occurred while responding (U.S. Fire Administration [USFA], 2012). In one specific example, a 30-year-old fire fighter in Virginia was killed in an accident that occurred during a response to a vehicle collision (“Volunteer firefighter”, 2012). These incidents reflect a continuation of recent history, as confirmed numbers for 2007-2011 indicate 15.4% of fire fighter deaths occurring during response (USFA 2012). For other motorists involved in accidents with responding apparatus, results can also be deadly. A 2011 incident in Pennsylvania left a 70 year-old woman dead when her vehicle was struck by a fire truck responding with lights and siren to a reported vehicle fire on the interstate (WGAL, 2011). Additionally, accidents involving fire apparatus can result in significant financial loss. For instance, an accident in Bridgeport, Connecticut, in 2007 resulted in the city being ordered to pay more than $3.4 million to the family of two women who were killed when their vehicle was struck by a fire truck responding with lights and siren (WTNH, 2011).

In an effort to reduce exposure to risk (not only to responding fire fighters, but to the general public encountered during the response) by reducing the number of emergency responses, the Pleasant View Volunteer Fire Department (PVVFD) enacted the “You Make the Call” program, which allows the officer in-charge of the responding unit or the shift supervisor to determine the response mode. This determination is made based on immediately available information and circumstances. The trade-off is that by removing the risk by not responding with lights & siren, we also remove the potential benefit of responding with lights and siren.
The problem is that the Pleasant View Volunteer Fire Department does not know if officer-discretion response mode determinations have effectively reduced risk without negatively impacting incident outcomes.

The purpose of this applied research project is to evaluate the decisions made by PVVFD personnel, relative to response modes, and attempt to determine the level of impact on the outcome of the incident. Evaluative research was used to assess the level of this program’s success, identify potential deficiencies, and formulate suggested changes or modifications to the emergency response system as a whole, with the intent of maximizing the risk-reduction efforts of the program without sacrificing the effectiveness of service delivery. To achieve this purpose, this project seeks to answer the following research questions: To what level has this program affected the number of lights and siren responses? To what level has this program negatively affected incident outcomes? How accurate are the response mode decisions being made by Pleasant View Volunteer Fire Department personnel? What changes or modifications are necessary to improve the effectiveness of this program?

The findings of this project will be shared with not only the administration of the PVVFD, but also the administrations of the 911 Dispatch centers in both Cheatham and Robertson counties, in the hopes that suggested changes or modifications can be implemented to improve responder safety without sacrificing effective service delivery.
Background & Significance

The Pleasant View Volunteer Fire Department was formed in 1970, providing fire protection for the (then-unincorporated) town of Pleasant View and portions of Cheatham County. In present-day, the department operates from five stations, covering 214-square-miles, which include two incorporated towns and portions of both Robertson and Cheatham counties. The combined population of the service area is near 25,000. Because the department serves portions of two counties, they are also dispatched by two separate dispatch centers. Having only four full-time employees, the department relies primarily on volunteers to provide station coverage and response to nearly 1,500 incidents per year.

In 1982, the department experienced it’s one and only line-of-duty death, which resulted from a traffic accident that occurred during an emergency response in a personal vehicle. Unfortunately, it wasn’t until a change of department leadership in 1998 that the practice of personal vehicle response was completely eliminated. Beginning in 1995, the department began responding in a “first responder” capacity to emergency medical calls as a supplement the EMS transport service, which is provided by county governments. This greatly contributed to the department’s call volume.

The “You Make the Call” program (Appendix A) was implemented on January 1, 2007, aimed at reducing unnecessary emergency responses by empowering the officer or shift supervisor to make the response mode determination based on immediate information and circumstances. This program represents the department’s most significant step in their stated vision, which is to be “non-typical”, and meets the definition of an adaptive challenge, as described by Heifetz and Linsky (2002). In 2008, Branden Sobaski (graduate student from Eastern Kentucky University who had previously served an internship with the PVVFD)
completed his master’s thesis on the department’s program and its effect on meeting National
Fire Protection Association (NFPA) response time standards.

Cheatham County E-911 implemented an Emergency Medical Dispatch (EMD) program on June 1 of 2009, which created a prioritization system for emergency medical calls. This system resulted in a reduction of fire department responses to EMS calls where no response is warranted, thus reducing the number of emergency vehicles operating with lights and siren, thereby reducing risk. Unfortunately, Robertson County E-911 continues to dispatch the fire department on all calls where an ambulance is requested, regardless of the nature, despite the efforts of many encouraging the Robertson County E-911 Board to adopt EMD. In efforts to reduce the number of unnecessary responses in Robertson County (which includes the town of Coopertown), the PVVFD distributed a guidance document that empowered personnel to determine not only if the call warranted an emergency vs. non-emergency response, but if the call even warranted a response at all (Appendix B). This became effective on February 1, 2011.

Since the implementation of the discretionary response program, there has been only anecdotal analysis of its affect on the number of lights & siren responses, outside of Sobaski’s work in 2008, and no true look at the effect on incident outcomes. This project seeks to challenge the notion that specific policies are required to determine response modes, and promote the theory that decisions made based on immediately available information and circumstances will result in a reduction of unnecessary risk. Because this is a departure from “typical” fire service thought processes, it is directly related to the enabling objective from the Executive Development course, Unit 7: Organizational Culture and Change, which states that the “Executive Fire Officer (EFO) should be an agent of cultural organizational change” (U.S. Department of Homeland Security 2011, p. SM 7-1). Additionally, by addressing the issue of
risk associated with lights and siren response, this project is directly related to one of the United States Fire Administration’s strategic goals, which is to “reduce risk at the local level through prevention and mitigation” (U.S. Department of Homeland Security 2012, p. II-2).

**Literature review**

Locating published information on the dangers and risk associated with lights and siren response is not difficult. Donoughe, Whitestone, and Gabler (2012) found that two-thirds of fire apparatus accidents occur during an emergency response. Specific to fire fighter fatalities, information prepared by the National Fire Data Center and the National Fallen Firefighters Foundation (2012) indicates that “responding” is the second-most frequent activity being performed at the time of death. National Highway Traffic Safety Administration (NHTSA) reports (as cited by Fahy, 2008) illustrate the effects of such collisions during emergency response extend well beyond responders, stating “that from 1997 through 2006, in fatal collisions involving a fire apparatus in emergency use (operating lights and sirens) and another vehicle, 94 of the victims were occupants of the other vehicle, while nine were firefighters.”

These are particularly disturbing facts, given that the common perception among fire fighters is that most responses do not involve a true emergency situation. Clawson (2002), a frequently-cited author on this topic, states that the time saved by the use of lights and siren “does not matter much in most cases, and not at all in many” and that most calls to 911 are not even emergencies at all. This information, when considered jointly with the results of accidents that occur during response, readily identifies the need to reduce the use of lights and siren in the absence of a true emergency.

The International Association of Fire Chiefs (IAFC, 2007) states that the use of lights and siren by emergency apparatus should be limited to incidents “where prompt response is likely to
reduce the risk of death, serious injury or disability, or preventable damage to property.”

Furthermore, Swinhart (2011a) says that departments should take proactive steps to ensure that emergency response is reserved for the most serious of calls. The issue then becomes how to identify which calls-for-service should warrant the use of lights and siren.

The International Association of Fire Fighters (IAFF, 2010) identifies a variety of departments that have instituted some type of alternative response policy, as opposed to the traditional approach of treating nearly every call-for-service as an emergency situation. These policies identify specific call types that (typically) would not constitute an emergency condition, and creating a matrix that identifies which calls get an emergency response, and which do not. Although resistance to such change may exist, based on the fear that responding units would arrive too late to provide the needed service, the document specifically states that “none of these jurisdictions have noted a reduction in their service delivery, higher fire losses, or reduced patient care/mortality rates on emergency medical service (EMS) calls as a result of these policies.”

The suggestion to use a call prioritization system is prevalent, in which the dispatch center utilizes specific criteria to indicate the appropriate response mode to the responding units. The use of an emergency medical dispatch (EMD) protocol is becoming more commonplace, as there are multiple programs that have been implemented and accepted nationwide. While medical emergencies are a growing majority of fire department responses nationwide, these systems do not address the myriad of other call types that fall under the scope of the fire service. Similar systems and programs exist for prioritization of “fire” calls, but are not as widely accepted. Despite that fact, some state that when this type of program is implemented appropriately, the results are “magical” (Bischoff, 2010).
Unfortunately, there does not appear to be any specific research on the practice or effects of an officer-discretion approach to response mode determinations. Applied research papers from the Executive Fire Officer Program of the National Fire Academy have much to offer, relative to the need to reduce the frequency of emergency response, but those researched by the author suggest addressing the issue through call prioritization or alternative response matrices (Frazier, 2000; Williams, 2005; Waldron, 2008; Swinhart, 2011b), although Gemind (2010) does reference the Pleasant View “You Make the Call” program as a policy option. In his master’s thesis, Sobaski (2008), while focused squarely on the Pleasant View Volunteer Fire Department and the “You Make the Call” program, addressed the merits relative to decreasing risk while maintaining sufficient response times, and did not address the issues of incident outcomes or accuracy in decision-making.

Procedures

The research procedures included an analysis of existing incident response data, review of data collected specifically for this program since its inception, and comparison of similar data from a near-by department collected for this project. These procedures assisted with answering the research questions, which were: 1. To what level has this program affected the number of lights and siren responses? 2. To what level has this program negatively affected incident outcomes? 3. How accurate are the decisions being made by PVVFD personnel? 4. What changes or modifications to the emergency response system in Pleasant View are necessary to improve the effectiveness of this program?

Beginning with the implementation of this program in 2007, the PVVFD added custom fields to Fire Programs, which is the records management software used by the department for
reporting to the National Fire Incident Reporting System (NFIRS). On each incident, the officer in-charge must classify the response mode into one of four categories:

- **Justified emergency response.** The decision to respond with lights and siren was justified because the situation found presented a true threat to life, health, or property, and the time saved by utilizing lights and siren was a factor in reducing the threat or loss.

- **Unjustified emergency response.** The decision was made to respond with lights and siren, but upon arrival, there was not an immediate threat to life, health, or property.

- **Justified non-emergency response.** The decision was made to respond without lights and siren, but upon arrival, there was not an immediate threat to life, health, or property.

- **Unjustified non-emergency response.** The decision was made to respond without lights and siren, but upon arrival, there was an immediate threat to life, health, or property.

Even in situations where the chosen response mode was “unjustified”, personnel have been encouraged to be honest in their response. This is outlined in the guidance document that has been distributed to all personnel. Discussion on this program and the factors involved in the decision-making process has been included frequently in training sessions.

Additionally, for each apparatus that responds on an incident, the response mode of that specific unit is documented by choosing one of four categories:

- **Emergency traffic:** the unit responded with lights and siren from the station to the incident location.

- **Non-emergency traffic:** the unit responded without lights and siren

- **Upgraded:** the unit initially responded without lights and siren, but activated the emergency equipment en route, based on new information or circumstances.
- Downgraded: the unit initially responded with lights and siren, but deactivated the emergency equipment en route, based on new information or circumstances.

Research for this project focused on the compilation and analysis of statistical information acquired from NFIRS data, specifically related to these custom fields. Particular attention was paid to calls classified as “unjustified non-emergency response”, as this classification represents incidents where the decision to respond without lights and siren may have resulted in an increase in property loss, or further damage to the health and well-being of a patient. Response records prior to the implementation of the “You Make the Call” program were also analyzed to determine an average percentage of annual calls that involved the use of lights & siren when the department operated under a typical, matrix-driven response policy.

For comparative purposes, the author also conducted data collection for 30 days from a neighboring department, City of Brentwood Fire & Rescue, which operates under a typical, matrix-driven response guideline. A report based on these findings can be found in Appendix C. The purpose of this effort was to gather the opinions of the responding officers, relative to the “accuracy” of the matrix in determining the appropriate response mode, in comparison with what they believed to be the appropriate response mode based on immediate information and their experience, and with the actual circumstances of the incident that they found upon arrival. The results will be compared with the PVVFD response data analysis to determine which is more accurate in determining appropriate response modes: a typical, matrix-driven response policy, or the discretion of the responding officer based on immediate information and circumstances.

The primary limitation of the research is that the data itself is subjective. In both the case of Pleasant View and Brentwood, whether or not the use of lights and siren was warranted is based on the opinion of the individual who completed the incident report. There is no
standardized method or measurement to the impact of using lights and siren on the outcome of the incident, therefore collecting data of this nature is left to the educated estimation of those who responded to the incident.

Results

Research and data analysis was successful in providing answers to the research questions, as provided in the following.

The first research question was: To what level has this program affected the number of lights and siren responses? The answer to this question is most easily determined by comparing the number of emergency responses made by the PVVFD before and after the implementation of this program. Prior to January 1, 2007, the department did not track which calls received response with lights and siren, and which did not. To obtain this data, call types were compared with the response matrix in effect during this time.

Table 1 displays the number of responses made by the PVVFD for the five years prior to, and the five years immediately following, the implementation of this program.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMG</td>
<td>1011</td>
<td>1105</td>
<td>1031</td>
<td>1171</td>
<td>1258</td>
<td>353</td>
<td>326</td>
<td>331</td>
<td>406</td>
<td>421</td>
</tr>
<tr>
<td>NON</td>
<td>237</td>
<td>196</td>
<td>274</td>
<td>183</td>
<td>292</td>
<td>1155</td>
<td>1111</td>
<td>1060</td>
<td>1030</td>
<td>1016</td>
</tr>
<tr>
<td>Total</td>
<td>1248</td>
<td>1301</td>
<td>1305</td>
<td>1354</td>
<td>1550</td>
<td>1508</td>
<td>1437</td>
<td>1391</td>
<td>1436</td>
<td>1437</td>
</tr>
</tbody>
</table>

In the five years before the implementation of this program, the department averaged 82.5% of annual responses that involved the use of lights and siren, which equates to 1,115.2
responses per year. In the five years since then, that percentage has dropped to 25.5%, or 367.4 responses per year. Based on these figures, this program has had a significant impact on the number of lights and siren responses being made by the department.

The second research question was: To what level has this program negatively affected incident outcomes? To provide an answer to this question, research focused on incidents that were identified by the responding officer as an “unjustified non-emergency response” (UJNER). With no standard of measurement available, and with the inability to recreate the exact incident to evaluate the impact of the response mode, the officer relied on education, training, and experience to make this determination. Table 2 lists the total number responses, along with the number of unjustified non-emergency responses for each year of the study.

Table 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Responses</th>
<th>UJNER</th>
<th>UJNER %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1508</td>
<td>12</td>
<td>0.79%</td>
</tr>
<tr>
<td>2008</td>
<td>1437</td>
<td>7</td>
<td>0.48%</td>
</tr>
<tr>
<td>2009</td>
<td>1391</td>
<td>9</td>
<td>0.64%</td>
</tr>
<tr>
<td>2010</td>
<td>1436</td>
<td>4</td>
<td>0.27%</td>
</tr>
<tr>
<td>2011</td>
<td>1437</td>
<td>9</td>
<td>0.62%</td>
</tr>
<tr>
<td>Total:</td>
<td>7209</td>
<td>41</td>
<td>0.57%</td>
</tr>
</tbody>
</table>

In total, unjustified non-emergency responses represent 0.57% of the total responses during the years included in this research. Because of the low number of responses in this category, the author was able to examine incident reports for each. Based on the available information, including narratives, in addition to conversations with responding personnel concerning details of the event, the author was not able to identify any incident in which the earlier arrival of fire units (if they had used lights and siren) would have had any appreciable or
measurable impact on the outcome of the event. As a result of this evaluative research, the answer to the question of the YMTC program having a negative impact on incident outcomes is “no”.

The third research question asked: How accurate are the response mode decisions being made by Pleasant View Volunteer Fire Department personnel? Research provided answers to this question in two different manners. Initially, this question was answered by examining the percentage of incidents that were categorized in both “unjustified” categories (unjustified emergency and unjustified non-emergency). By choosing either category, the officer is indicating that, based on the findings upon arrival on-scene, the selected response mode was not appropriate. Table 3 compares the number of justified and unjustified responses for each year.

Table 3

<table>
<thead>
<tr>
<th>Year</th>
<th>Justified</th>
<th>%</th>
<th>Unjustified</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1081</td>
<td>71.7</td>
<td>427</td>
<td>28.3</td>
</tr>
<tr>
<td>2008</td>
<td>1193</td>
<td>83.0</td>
<td>244</td>
<td>17.0</td>
</tr>
<tr>
<td>2009</td>
<td>1143</td>
<td>82.2</td>
<td>248</td>
<td>17.8</td>
</tr>
<tr>
<td>2010</td>
<td>1180</td>
<td>82.2</td>
<td>256</td>
<td>17.8</td>
</tr>
<tr>
<td>2011</td>
<td>1106</td>
<td>76.9</td>
<td>331</td>
<td>23.1</td>
</tr>
<tr>
<td>Total:</td>
<td>5703</td>
<td>79.1</td>
<td>1506</td>
<td>20.9</td>
</tr>
</tbody>
</table>

Based on the numbers in Table 3, Pleasant View personnel were accurate in their response mode selection 79.1% of the time over the five-year span of this study.

Additionally, an answer to this question was sought by comparing the accuracy achieved by Pleasant View’s program with a department that utilized a more traditional, policy- or matrix-based approach. Data collected from the month of October, 2012, at Brentwood (TN) Fire &
Rescue, revealed 229 calls for service. Of those 229, 187 (81.7%) were with lights and siren. The activation of lights and siren for these calls is based on a general operating guideline (GOG) that specifies which will and will not receive an emergency response. Based on the dispatch information, responding officers perceived 78 (41.7%) of those calls to involve a true emergency situation. Forty-three (23.0%) were determined to be a true emergency upon arrival, yet only 20 (10.7%) did the officers believe that the response mode affected the outcome of the incident (justified emergency response). In consideration of both emergency and non-emergency responses, it was determined that decisions made based on the GOG resulted in the accurate response mode being utilized on 26.9% of the incidents in the study. Table 4 compares the accuracy of the Brentwood system with the Pleasant View program.

Table 4
Response Mode Accuracy of Brentwood vs. Pleasant View

<table>
<thead>
<tr>
<th>Brentwood</th>
<th>Pleasant View</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.9%</td>
<td>79.1%</td>
</tr>
</tbody>
</table>

Additionally, the author examined response numbers related to emergency medical incidents occurring in Cheatham County after the implementation of their emergency medical dispatch system. Responses from June 1, 2009 (the start date of the EMD program) through May 31, 2012 revealed a total of 1,361 incidents dispatched by Cheatham County E-911 that received an NFIRS incident type code in the 300-series. Nearly eighty percent (1,086, or 79.8%) of the response modes for these calls were classified by the PVVFD as being “justified”, which includes both emergency and non-emergency responses. The remaining 275 (20.2%) were
unjustified. These figures indicate that the response mode to medical emergencies, as determined by the dispatcher utilizing EMD, are accurate nearly 80% of the time.

Also of note is that fact that, of the 1,361 responses occurring under the EMD system, 44.5% (606) were recorded as being emergency responses, compared to the emergency response percentage of all calls, which is 25.5%. The effect of EMD on the total number of responses is evident when comparing the total call volume (as shown in Table 1) from CY2009 (in which EMD was only in effect for the second half of the year) with the total call volume from CY2008, indicating a decrease of 3.2%.

The fourth and final research question was: What changes or modifications to the emergency response system are necessary to improve the effectiveness of this program? In order to answer this question, the author researched the specifics of the “unjustified non-emergency” responses with the intent to identify common factors that would indicate deficiencies relative to the agency that dispatched the call (Cheatham County or Robertson County), decisions made on specific types of calls, or the experience level of the personnel making the response mode decision.

In seeking an answer to the fourth research question, the dispatch centers role in the process was evaluated. Consideration was given to the number of unjustified non-emergency responses relative to the 911 center that received and dispatched the call, with the intent of identifying a tendency with one or the other. For the five-year duration, Robertson County dispatched for 22 (53.7%) of the 41 calls falling into this category. Cheatham County dispatched the remaining 19 (46.3%). Overall, Cheatham County dispatched for 55.8% of the total number of responses during the five-year period, while Robertson County dispatched for 44.2%. Table 5 displays the comparison between the two dispatch centers.
Table 5

Unjustified Non-emergency & Total Calls by Dispatch Center

<table>
<thead>
<tr>
<th></th>
<th>Cheatham E-911</th>
<th>Robertson E-911</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of unjustified non-</td>
<td>46.3%</td>
<td>53.7%</td>
</tr>
<tr>
<td>emergency calls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of total calls</td>
<td>55.8%</td>
<td>44.2%</td>
</tr>
</tbody>
</table>

The research also looked to the type of call for significant findings. For the unjustified non-emergency response, calls that were medical in nature (NFIRS 300-series incident types) held the large majority, with 36 of the 41 responses. Fires (NFIRS 100-series incident types) accounted for only 3, while all others accounted for 2. Table 6 shows the breakdown.

Table 6

Unjustified Non-emergency Responses by Incident Type

<table>
<thead>
<tr>
<th>Year</th>
<th>Fire</th>
<th>Medical</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>1</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>0</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>36</td>
<td>2</td>
</tr>
</tbody>
</table>

In seeking a relationship between the level of experience of the decision maker and the number of unjustified responses, a variety of potential variables were identified. Some of these variables include years in the fire service, years with the PVVFD, education level, certification level, and age, among others. This research was limited to the number of years in the fire service and certification level. Based on those variables alone, the data did not indicate a direct correlation to the number of unjustified response modes.
Discussion

In large part, the findings of this project confirm existing literature and the findings of previous research regarding the necessity of emergency response. The effectiveness of previously suggested methods for dealing with the issue, however, are questionable, based on the research of the author.

Clawson (2002) identified the fact that in most situations, lights and siren use is not warranted, as there is no benefit to those requesting emergency services. Information from Pleasant View supports this, as only 15.4% of the incidents in the five-year period were identified as needing a lights and siren response. Comparative data collected from Brentwood Fire & Rescue further enforces this, as officers there believed that, during the month of October, 2012, only 10.7% of the incidents would have been affected by the response mode.

In seeking methods to reduce emergency response to situations where it is not required, many suggest implementing a policy that identifies which call types receive lights and siren, and which do not. Frazier (2000) states that a policy should “reflect what type of response (emergency vs. non-emergency) units should use, based on the type of call and the risk.” The IAFC (2007) echoes this sentiment by stating that departments should adopt written policy authorizing emergency response for specific call types, and provides a list of calls that should be in each category (p. 4-5). This type of policy or guideline is what governed emergency response in Pleasant View prior to the adoption of the current program, and is what currently governs emergency response for Brentwood (Appendix D).

Data evaluated during this project, however, suggests that policies such as these remain relatively ineffective at reducing unnecessary emergency responses. In Pleasant View, prior to the adoption of the current program, 85.2% of incidents received a response with lights and siren.
Data collected since the implementation of the current program states that officers believed only 15.4% of those incidents required a lights and siren response. Comparatively, similar numbers are found in Brentwood, as 81.7% of the incidents receive a lights and siren response, yet only 10.7% have been determined to necessitate their use.

The first research question sought to determine how effective Pleasant View’s “You Make the Call” program has been at reducing the number of lights and siren responses. As previously stated, in the five years prior to implementation of this program the PVVFD responded with lights and siren 85.2% of the time. Since implementation, that number has dropped to 25.5%—nearly a 60% decrease in the number of lights and siren responses. This represents a significant decrease in the risk posed to both fire fighters and members of the general public, given that fire apparatus accidents “tend to have grave consequences for firetruck [sic] occupants and for occupants in other vehicles involved in the crash”, and that two thirds of apparatus accidents occur during emergency use (Donoughe et al., 2012).

Williams (2005) and Swinhart (2011b) suggest implementing an emergency medical dispatch system to reduce the number of lights and siren responses. Evaluation of Pleasant View responses under the use of emergency medical dispatch protocols reveals that the appropriate response mode was utilized 79.8% of the time, which is only a small increase over the 79.1% accuracy of the responding officer to select the appropriate response mode based on their own analysis of current circumstances. Based on the reduction in total call volume that occurred after the implementation of EMD in Cheatham County, it is evident, however, that this type of system will reduce the number of calls where no fire department response is warranted.

Implementation of a call-prioritization system requires the cooperation of the dispatch center. In many cases, governance of the public safety answering point (PSAP) or dispatching
agency may be outside the control or influence of the fire department. Enacting this level of change to an outside entity may not always be a possibility, and is certainly evident in the case of the PVVFD, as extensive efforts to encourage Robertson County E-911 to implement EMD have not been successful.

Bischoff (2010) reports that the utilization of emergency fire dispatch protocols will increase the dispatcher’s ability to appropriately assign resources. The author assumes that these claims would be more accurate in jurisdictions with static staffing and resource availability. In a primarily volunteer-based department, however, personnel availability to provide apparatus response, or response capabilities from a particular station, may be very dynamic. These variables are often unknown, and therefore cannot be accounted for in a system that categorizes a response based on details of the caller’s reason for dialing 911. Through the use of IamResponding.com or other real-time personnel availability program, fire department personnel have access to availability information, and can account for these variables in their decision-making process. Theoretically, dispatch personnel could also include this information when prioritizing units for calls. In order for this to be effective, however, all response personnel must be compliant in the use of such a system. Additionally, in a centralized dispatch, monitoring personnel availability for multiple fire departments, while also dispatching for multiple law enforcement agencies and EMS, could overwhelm the typically-understaffed dispatch center (M. Waldron, personal communication, November 26, 2012).

The second research question focused on determining if, and to what level, the Pleasant View program had resulted in a negative impact on the outcome of the incident. The potential for this exists when an officer chooses to respond without lights and siren to an incident where, because of a slower response, a greater amount of damage could occur or patient condition could
deteriorate further. Obviously, the worst-case scenario would be where the time lost by responding non-emergency resulted in the loss of a life.

Incidents where the apparatus responded non-emergency, but the officer felt (after arrival) that they should have responded with lights and siren were classified as an “unjustified non-emergency response.” This classification accounted for 41 (0.57%) of the 7,209 responses during the five-year study period. A call-by-call review of these 41 incidents by the author did not reveal any specific increase in damage or injury (to the point that it is quantifiable), but rather the existence of the potential for that increase. Based on this, it appears that the response mode decisions being made under this program are not having a significantly negative impact on the incident outcomes. In order to monitor this more accurately in the future, however, more detailed documentation of these incidents will be required.

On the issue of the accuracy of the chosen response mode (research question number four), obtaining published literature proved to be a challenge. Other than the work of Sobaski (2008), none of the literature reviewed by the author addressed a method or mentioned a need to report whether or not the response mode used was the response mode needed. As such, the author then collected information from Brentwood Fire & Rescue for comparative purposes. Under the “You Make the Call” program in Pleasant View, chosen response modes proved to be accurate 79.1% of the time, compared to 26.9% in Brentwood, which operates with policy-driven response modes. Relatively speaking, it is safe to say that response mode decisions made under the Pleasant View program are significantly more accurate than decisions made based on a predetermined list of incident types.

In the 20.9% of incidents where the chosen response modes were not appropriate for the incident in Pleasant View, 20.4% of those were unjustified emergency responses. This identifies
two key points: (a) when they are unsure, personnel still choose to err on the side of caution, and respond with lights and siren; and (b) there is still room for improvement, relative to reducing the number of unnecessary lights and siren responses.

The dispatch center that handled the incident also appeared to have some impact on accuracy levels. As Table 5 shows, Cheatham E-911 dispatched for 55.8% of the total calls, yet was involved in only 46.3% of unjustified non-emergency responses. Inversely, Robertson E-911 dispatched for 44.2% of the total calls, yet was involved in 53.7% of the unjustified non-emergency responses. This could be directly and indirectly attributed to Cheatham County’s use of emergency medical dispatch protocols. These protocols, as previously stated, did provide higher accuracy rates on emergency medical responses. Additionally, because the dispatchers are accustomed to gathering more information on medical incidents, they may also seek more information on other types of incidents, thus leading to a more informed decision on the part of the responding officer. Further research into the dispatch center’s role in response mode accuracy is necessary to draw definitive conclusions.

The fourth and final research question sought to identify changes or modifications necessary to improve the effectiveness of the “You Make the Call” program. Several were found, and are addressed in the Recommendations section of this work.

**Recommendations**

The stated purpose of this project was to evaluate Pleasant View’s “You Make the Call” program for effectiveness and deficiencies, and formulate suggested changes or modifications for improvement. As a whole, the research indicates that this program has successfully managed to reduce risk without negatively affecting incident outcomes, which was the intent of its design. In
order to ensure the program maintains and builds upon this current level of success, the research has, however, identified a number of recommendations for consideration.

Implementing, maintaining, and expanding a program that represents such a departure from “typical” fire department operations has, and will continue to require a high level of adaptive leadership. Heifetz and Linsky (2002) provide insight into such issues, and identify methods of leading people whose beliefs are being challenged. Leadership of the Pleasant View Volunteer Fire Department, as well as any department seeking to invoke a program such as this, should seek training and education in this area. Failure to do so could lead to failure of the program, which in turn would result in increased risk to fire fighters and civilians.

While training has been provided to personnel on this topic in a variety of settings and methods, there is not a turn-key course curriculum or lesson plan for reference. The development of a training program for officers that is scenario-based will aid in consistent response mode decisions on a day-to-day basis. This program should focus on the decision making process, and identify all of the variables involved. This list of variables should include, but not be limited to the following: available personnel and resources, weather, traffic, distance to incident location, and proximity of other units to call location. These are examples of variables that are not known to the caller, and may not be known to the dispatcher. Information provided by the dispatcher, such as call type, reliability of caller, etc., should be coupled with the aforementioned variables to make an appropriate decision regarding response modes. While a training program such as this would be aimed at officer-level personnel, the inclusion of all personnel would aid in “buy-in” from all ranks, and would begin the process of preparing the next generation of officers and shift supervisors. This training should also include the
importance of documentation, including examples of the correct and incorrect methods of capturing the required information.

Efforts should also be made to provide a level of training to dispatch personnel. This will provide them with an understanding of the program and desired outcomes. By doing so, this should also improve the quality of information used by the officers to determine the response mode. For instance, if the dispatcher is aware of what information is needed (beyond what is typical), they may be more likely to ask more questions of the caller, or provide additional information to fire units without being prompted. Additionally, efforts should be made to educate other stakeholders on the program, such as other area fire departments, EMS, law enforcement, and emergency management personnel. These agencies often operate on the same incident scenes as the fire department, and may misunderstand why Pleasant View apparatus did not respond emergency, when their units did – a potential source for conflict between responders.

In order to ensure that this program is meeting its intent, data quality must be monitored. During the course of the research, the author was able to identify and correct a variety of coding errors throughout the incident reporting process. This reveals a definite need to establish a consistent quality assurance process beyond what the department has had in place previously. Ideally, the aforementioned training program will result in fewer entry errors. Coupled with the implementation of a review process by qualified individuals, the result should be reliable, quality data.

The results of this work should also be utilized in the effort to persuade Robertson County to adopt some sort of emergency medical dispatch protocol. While this research shows that EMD is not the perfect solution to eliminating unnecessary emergency response, it is certainly a step in the direction of improving responder safety.
The final recommendation is for further research, in both Pleasant View and other fire departments. In Pleasant View, this needs to include an analysis of the “unjustified emergency responses” to determine if the accuracy rate can be moved closer to 100%, with the goal of eliminating unnecessary responses with lights and siren. Continuing to monitor this program will also allow the effectiveness of these recommendations to be measured. Through tracking the accuracy or justification of response modes, other departments can begin to identify factors that indicate the need for emergency response, and analyze the effectiveness of their response policies or guidelines. This will also result in more data for comparative analysis. Additional research could also lead to the development of an effective method for measuring the results of lights and siren use, in terms of the amount of damage or injury severity that is prevented by the time saved. Identifying a benchmark percentage for “response mode accuracy” could also be a valuable tool for risk management purposes. Much work remains to improve responder safety.

In conclusion, recommendations for those who wish to replicate this research include:

- Provide ample training to all personnel regarding the decision-making process
- Ensure that tools for data collection are in place and understood by all members
- Perform consistent quality assurance to ensure data quality
Reference list


Frazier, G. (2000). What is the answer to the reduction of accidents while responding emergency traffic? Emmitsburg, MD: National Fire Academy, Learning Resource Center


Sobaski, B.J. (2008). *You Make the Call: The Use of Officer Discretion In Selection of Emergency Response Mode for Fire and Emergency Medical Services* (Unpublished master’s thesis). Eastern Kentucky University, Richmond, KY.


Williams, A.S. (2005). *Identifying issues when responding without lights and siren to selected call types for the Anne Arundel County Fire Department*. Emmitsburg, MD: National Fire Academy, Learning Resource Center

Appendix A – PVVFD “You Make the Call” guidance document

Pleasant View Volunteer Fire Department

Emergency vs. Non-Emergency Response: “You Make the Call”

Effective Date: January 1, 2007

Scope

The scope of this guidance applies to all personnel, regardless of rank, who may be the individual in-charge (OIC) of a PVVFD unit responding to a call-for-service.

Purpose

The purpose of this guidance is to limit the risk of death or injury to PVVFD personnel, as well as civilians traveling on the roadway, by reducing the number of emergency responses to situations where no true emergency exists.

Procedures

Response: At the time of dispatch, the OIC should consider the information provided, and attempt to determine, with some degree of confidence, if this situation presents a true threat to life, health, and property. If insufficient information is initially provided, ask the necessary questions to the dispatcher. Factors such as call type, number of reports, reporting party, time of day, traffic conditions, weather conditions, proximity to call location, proximity of other units to the call location, etc., should all be considered. The OIC should also consider the benefit of the emergency response: Will arriving 30-90 seconds faster improve the outcome of the situation? If the OIC believes that a true emergency situation exists, then the appropriate response would be with lights & siren.

Reporting: Implementation of this program brings with it the addition of two fields on the incident report. The first is under the Apparatus tab, which allows the OIC to document how that specific unit responded to the incident. Also, a field has been added to the custom tab of the Fire Programs incident report module that will allow the OIC to categorize the response mode determination into one of four categories. Both fields are required. The table below describes each field and entry choice.

In addition to these fields, please document in the incident narrative why you chose the response mode that you did. Include any and all factors that influenced the decision.

<table>
<thead>
<tr>
<th>Field</th>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Response Mode</td>
<td>Emergency</td>
<td>Lights &amp; siren response</td>
</tr>
<tr>
<td></td>
<td>Non-Emergency</td>
<td>No lights &amp; siren used</td>
</tr>
<tr>
<td></td>
<td>Upgraded</td>
<td>Initial response was without L&amp;S, but based on additional information, L&amp;S activated</td>
</tr>
<tr>
<td></td>
<td>Downgraded</td>
<td>Initial response was with L&amp;S, but based on additional information, L&amp;S deactivated</td>
</tr>
<tr>
<td>Response Justification</td>
<td>Justified emergency</td>
<td>L&amp;S utilized, and a true emergency was found upon arrival</td>
</tr>
<tr>
<td></td>
<td>Unjustified emergency</td>
<td>L&amp;S utilized, but there was not a true emergency upon arrival</td>
</tr>
<tr>
<td></td>
<td>Justified non-emergency</td>
<td>No L&amp;S used, and no emergency upon arrival</td>
</tr>
<tr>
<td></td>
<td>Unjustified non-emergency</td>
<td>No L&amp;S used, but there was a true emergency upon arrival</td>
</tr>
</tbody>
</table>
Please remember that being honest and accurate is extremely important. There is no punishment for making a response mode determination that is categorized as “unjustified”. Calls in this category will be evaluated and discussed. We will use this information to address training needs in our own department, and share this information with both Robertson and Cheatham County dispatch centers.

***

**UPDATE 5-1-2009:**

**Cheatham County EMD:** With the introduction of EMD by Cheatham County Dispatch, a priority dispatch system will be in place for medical emergencies within Cheatham County. Effective June 1, 2009, fire departments will be dispatched to medical emergencies as either “Charlie” or “Delta” responses. “Charlie” response should indicate that the nearest emergency unit (fire or EMS) responds emergency, while other responding units are non-emergency. “Delta” response indicates that, based on information gathered by the dispatcher, all responding units should operate in emergency mode. The response mode indicated by dispatch should not be treated as a mandate, but as another tool that the OIC should use to determine the appropriate response mode of that unit.

***

**UPDATE 1-15-2011**

**Medical Response in Robertson County:** With the continued lack of progress to implementing EMD in Robertson County, and continued indifference to unnecessary fire department response, the PVVFD will adopt the “Medical Response in Robertson County” guidance document, effective February 1, 2011. For calls that do not receive a response by PVVFD, based on that document, the “No Response” option should be used in the previously described fields.
Pleasant View Volunteer Fire Department

Emergency Medical Response in Robertson County

Effective Date: February 1, 2011

Scope
The scope of this guidance applies to emergency medical first-response calls in Robertson County.

Purpose
The purpose of this guidance is to limit number of unnecessary responses by the PVVFD (non-emergent calls, responses where EMS is on-scene & transporting prior to our arrival, etc.).

Procedures
Until the implementation of a “call prioritization” program by Robertson County Central Dispatch, the PVVFD will implement the following procedure, relative to medical calls in Robertson County.

Step 1 – Acknowledge the call (“Robertson Central, Pleasant View copies page.”)

Step 2 – Evaluate the CALL TYPE: Does the nature of the call fall into one of these categories?

| CALL TYPE          | Response
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Burn Injury</td>
<td>Falls &gt; Standing Position</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>Respiratory / S.O.B.</td>
</tr>
<tr>
<td>Child Birth</td>
<td>Stabbing / Gunshot Wound</td>
</tr>
<tr>
<td>CPR In-Progress</td>
<td>Trauma / Fracture</td>
</tr>
<tr>
<td>CVA / Stroke</td>
<td>Unresponsive Patient</td>
</tr>
</tbody>
</table>

Step 3 – If the CALL TYPE does not match one of the categories above, request additional information:

“Robertson Central, do you have any additional information about this call?” Additional information that was not provided in the original dispatch may qualify the incident for response.

“Robertson Central, where is the Medic unit responding from?” If the responding EMS unit is coming from out-of-zone AND our response would result in quicker service to the citizen, a response from the PVVFD is justified.

Step 4 – Make a response determination:

If the details of the call DO NOT meet the criteria identified above, advise Robertson Central that the PVVFD will not be responding, unless the responding EMS unit requests us to do so.

If the details of the call meet the criteria for response, OR if the responding EMS unit requests our response, then PVVFD units should respond accordingly.

Note: Response mode determination (emergency vs. non-emergency) should be based on currently established criteria. Additionally, it is recommended that, if we choose not to respond, we monitor RCEMS frequency for additional information that may indicate a response is needed.

Reporting: Incidents not receiving a response by PVVFD should be documented with an incident number, an incident report with a 611 incident type, including a narrative documenting the information obtained and reasons why no response occurred.
Appendix C – Analysis of Brentwood Fire & Rescue response modes

SNAPSHOT:
An analysis of response modes by the
Brentwood Fire & Rescue
Department for the month of October, 2012

This report prepared by
Lt. Brian Collins
as part of an Applied Research Project
for the
National Fire Academy’s
Executive Fire Officer Program
Executive Development Course
Background

The purpose of this data collection effort was to provide comparative data for an Applied Research Project (ARP) that examines the effectiveness of the response mode determination policies of the Pleasant View Volunteer Fire Department.

Brentwood Fire & Rescue was selected for this collection due to their standard approach to response mode determination, which is very typical of most fire departments across the United States.

Data was collected from 9/30/2012 – 11/1/2012 through a series of four questions that the officer of the primary responding unit would answer, based on their opinion of the incident.
The four questions posed for each incident were:

- *Did this incident receive an emergency (lights & siren) response?*
- *Based on the dispatch information, did you perceive this incident to present an immediate danger to life, health, or property?*
- *Upon your arrival, did you find that this incident DID present an immediate danger to life, health, or property?*
- *Did the response mode have an impact on the outcome of the incident?*
Background

An email explaining the questions, their purpose, and potential responses was sent to all members of BF&R.

An instruction sheet was attached so that it could be printed for reference, and the issue was discussed at the quarterly officer's meeting on October 4, 2012.
Of the 234 incidents that occurred during the collection period, 229 incidents received answers for the supplemental questions.

Of those 229:
- 187 received emergency (lights & siren) response
- 37 received non-emergency response
- 4 downgraded en route
- 1 upgraded en route
Of the 187 incidents that received an emergency response:

- 78 were perceived to be a “true emergency” by the Officer, based on dispatch information Chart 1.
- 43 resulted in Officers finding a “true emergency” upon arrival Chart 2.
- 20 resulted in situations where the incident outcome was, or could have been, affected by the response mode Chart 3.

**Chart 1**

58% of the time, BFR officers are responding with lights & siren to a call that they do not perceive to be a true emergency.

**Chart 2**

Officers only find a “true emergency” on 23% of the calls that they respond to with lights & siren.

**Chart 3**

A little more than 1 of 10 times did our officers feel that the mode of response had any impact on the outcome of the incident.
Data: Fire Alarms

- Of the 229 incidents, 34 were for residential or commercial fire alarms, of which:
  - 29 received an emergency response
  - 0 were perceived to be a true emergency upon dispatch
  - 0 produced a “true emergency” upon arrival
  - 0 were impacted by the mode of response

On a related note, during the sample period, BFR responded to a fire in a hotel which activated both the fire sprinkler and alarm systems. The specifics of this incident support the theory that 911 calls will accompany automatic alarm activations when an actual fire exists in an occupied structure. In this particular case, the 911 call was received 2 minutes prior to receipt of the alarm activation by the monitoring company. For that reason, this call is included under the “Structure Fire” section, and not in the totals above.
Of the 229 incidents, 126 were emergency medical in nature, of which:

- 119 received an emergency response
- 53 were perceived to be a “true emergency” upon dispatch
- 31 were determined to be a “true emergency” upon arrival
- 12 were impacted by the response mode
- 6 were not perceived to be a “true emergency” on dispatch, but were determined to be a “true emergency” upon arrival. Of those 6, 2 were impacted by the response mode.

Chart 4

55% of the time, BFR officers do not perceive medical calls to be a “true emergency”, despite the use of lights & siren.

Chart 5

Nearly ¾ of the time, BFR responds “emergency” to medical calls that are not true threats to life or health.

Chart 6

Almost 90% of the time, response mode has no impact on the outcome of emergency medical incidents.
Data: Structure Fires

- Of the 229 incidents, 7 were reported structure fires, of which:
  - All 7 received an emergency response
  - All 7 were perceived to be a “true emergency” upon dispatch
  - 5 were determined to be a “true emergency” upon arrival
  - 3 were impacted by the response mode

While the ratio of emergency responses made to emergency situations found is much higher in this category, we must also recognize that the number of units responding “emergency traffic” is significantly higher. Therefore, the level of unnecessary risk is also significantly higher on false structure fire calls, when compared to a false fire alarm or insignificant medical call.
Of the 229 incidents, 22 were reported as personal injury accidents, of which:
- All 22 received an emergency response
- 13 were perceived to be a “true emergency” upon dispatch
- 5 were determined to be a “true emergency” upon arrival
- 3 were impacted by the response mode

At almost 60%, MVCs present the largest percentage of "perceived" emergencies at the time of dispatch.

More than 4% of the time, however, there is no true life threat or serious injury found on arrival.

Response mode did not have an impact on the outcome of the situation in 86.4% of the incidents reported.
• Of the 229 incidents, current BFR policies resulted in the correct response mode in 26.9% of the incidents reported (16.2% non-emergency responses + 10.7% emergency responses with emergency situations found, where response mode had an impact on the incident outcome)

• 74.1% of the incidents reported involved unnecessary use of lights & siren

• Automatic fire alarm activations were the call type with the most unnecessary risk associated with emergency response, as none of the incidents resulted in emergency situations

• Structure fires were the call type with the least percentage of unnecessary emergency responses

• Further analysis is required for structure fire and PIA responses, relative to a per-unit identification of necessary vs. unnecessary emergency responses

• In all categories, the perception of the officer, based on dispatch information, was more often correct in identifying the need for emergency response than the current response policy

• While not addressed here, the value of well-trained dispatchers is evident
Appendix D: Brentwood Fire & Rescue GOG-201 – General Response Guideline

<table>
<thead>
<tr>
<th>Brentwood Fire Department – General Operating Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUBJECT:</strong> General Response Guidelines</td>
</tr>
<tr>
<td><strong>Number:</strong> 201</td>
</tr>
<tr>
<td>Draft Date: 4-18-08</td>
</tr>
<tr>
<td>Comment Date:</td>
</tr>
<tr>
<td>Revision Date: 2/5/09</td>
</tr>
<tr>
<td>Effective Date: 2/10/09</td>
</tr>
<tr>
<td>Review Date:</td>
</tr>
<tr>
<td>Page: 46 of 5</td>
</tr>
</tbody>
</table>

**SCOPE**

This guideline applies to all BFD personnel responsible for operating Brentwood Fire Department apparatus and/or staff vehicles. For additional information related to driving aerial ladders see GOG 205 Ladder Truck Operations.

**PURPOSE**

The purpose of this guideline is to:

- Provide BFD employees with general driving and safety regulations for operating all vehicles;
- Reduce injuries and property damage by establishing operating guidelines detailing proper apparatus operation; and
- Incorporate the general driving rules and regulations promulgated by the State of Tennessee and the Brentwood Fire Department into a single policy.

**DEFINITIONS**

Driver - An employee authorized, through adherence to state and departmental requirements, to drive and/or operate emergency vehicles. Also may also be referred to as an operator or Engineer.

Emergency Response (Code 3) – Responding to the scene of an emergency using audible and visual emergency warning devices. Also referred to as emergency mode.

Non Emergency Response (Code 1) – Responding to a call through routine traffic, obeying all posted speed and traffic devices, without using audible and visual emergency warning devices.

Supervisor - The company officer or other person designated responsible for overseeing the crew.

Personnel – An employee of the Brentwood Fire Department.

Apparatus – Common terminology for various large trucks that carry firefighters and equipment to the scene of a fire.

POV – Privately owned vehicle.

**RESPONSIBILITIES**

Engineer – A promoted position within the Brentwood Fire Department, the Engineer is responsible for operating an apparatus and for delivering his/her crew safely to the incident scene.

Supervisor – For the purposes of this GOG, this individual is responsible for the overall health and safety of the crew and the apparatus as well as overseeing all activities of an assigned company during a given shift.
PROCEDURES

General

All personnel who drive City owned, rented, or leased vehicles will operate them in a safe manner and at all times adhere to all City, State, and Federal traffic laws. All members must have a valid driver's license to operate any City vehicle or use their personal vehicle for City business.

All personnel riding in vehicles will properly utilize provided seat belts while the vehicle is in motion. Failure to do so constitutes a violation of departmental policy as well as state law and may result in formal discipline up to and including termination.

Drivers will operate vehicles in a courteous and professional manner at all times with regard for the best interest of the public and the fire service.

Drivers will not knowingly drive and/or operate a vehicle with mechanical defects that could affect the safety of its operation.

Use of City vehicles may be permitted by off duty personnel with appropriate authorization per the City of Brentwood Personnel Rules and Regulations.

Any employee whose operator’s license has been changed, revoked, suspended or otherwise disqualified, will immediately notify his/her supervisor.

Any employee who is suffering from a physical limitation or taking medication that would adversely affect his/her ability to safely operate a motor vehicle will notify a supervisor immediately. The supervisor will consult with the shift commander and the Safety Officer or his/her designees to evaluate the employee's fitness for duty and take action as needed.

Tobacco use is prohibited in city vehicles.

No member will operate a City vehicle while under the influence of alcohol or illegal substance.

Vehicle safety

Wheel chocks will be used anytime the apparatus is parked outside the bay. When parked on an incline, the front wheels should be turned toward the curb.

Transporting of persons not employed by the City of Brentwood is to be avoided without prior approval of the Fire Chief.

Fire department vehicles shall operate with headlights on.

Off-duty personnel responding in their POV to incidents or to a fire station on a call-back basis shall operate their vehicle in compliance with all applicable traffic laws. No “Code 3” response in POV’s will be permitted.

Compartment and cab doors shall be kept in the closed position at all times when not accessing the compartment.
 Maintenance

All Fire Department vehicles will be inspected at the beginning of each shift and prior to being returned to service after repairs to identify and correct unsafe conditions.

Fire Department apparatus will be maintained in accordance with the BFD’s established preventive maintenance program. This includes established Daily, Weekly, and Monthly apparatus maintenance checks. Maintenance, inspections and repairs will be performed in accordance with manufacturer’s recommendations. Any Fire Department vehicle found to be unsafe will be placed out of service until repaired. Once repaired, the vehicle will be inspected by designated BFD maintenance personnel prior to being placed back in service.

Fire pumps on apparatus will be service tested in accordance with the frequency and procedures specified in NFPA 1911, Standard for Service Tests of Fire Pump Systems on Fire Apparatus.

All aerial devices will be inspected and service tested in accordance with the procedures specified in NFPA 1914, Standard for Testing Fire Department Aerial Devices.

 Emergency Response

The goal of the department will be to exit the station within 80 seconds reflex time when responding to an emergency call. This time begins when the personnel assigned to that apparatus are dispatched and ends when the apparatus physically goes enroute.

In stations that are so equipped, caution lights indicating the departure of emergency vehicles from the stations shall be used when leaving the station in emergency mode.

 AT NO TIME WILL THE SPEED OF THE APPARATUS EXCEED 10 MPH OVER THE POSTED SPEED LIMIT regardless of response mode. Fire Department vehicles will come to a COMPLETE STOP at all red traffic signals and stop sign intersections. Proceed only when right--of-way has been granted.

When approaching RAILROAD CROSSINGS, reduce speed to 30 mph or less, depending on the crossing. Look both ways and then proceed with caution.

When approaching SCHOOL ZONES, vehicles should never exceed the posted speed limit.

**Emergency vehicle drivers shall not pass a stopped school bus that is discharging or picking up passengers, or has its warning lights displayed, unless cleared to do so via visual signal from the driver of the school bus.**

When driving with snow chains, the vehicle shall not exceed 35 mph. When foggy, wet or other HAZARDOUS weather conditions exist, vehicle will not exceed posted speed limit. Auxiliary braking systems (such as the Jake Brake) shall be disabled when driving in these conditions. ADJUST SPEED TO MATCH ROAD CONDITIONS.

During an emergency response, emergency vehicles shall avoid passing one another. If required, the passing arrangement should be conducted through radio communications. Safe following distances between emergency vehicles must be maintained at all times.
Considerations for Emergency/Non-Emergency Response

**EMERGENCY RESPONSE MODE**

Emergency Response Mode includes the use of visual and audible warning devices and is to be used where life safety concerns are present or concerns over property damage exist. The Emergency Response Mode will be the default mode for the following incidents:

- Brush or grass fires
- Chimney fire
- Smoke removal
- Vehicle fires (including those in a parking ramp)
- Hazardous Materials (initial response)
- Smoke odor or other odor that presents a potential threat (example – natural gas)
- Electrical emergencies where possible life hazards exist
- Confined Spaced Rescue, Rope Rescue, Collapse/Trench Rescue, or Technical Rescue
- Automatic alarm with visible smoke or fire, odor of smoke, report of water flowing, or any other alarm that would warrant a full assignment with an emergency response
- Automatic alarm sounding with no additional information or other indication of a problem, such as smoke or heat detectors, hand pull, or water flow, will be two Engines, Truck, and a Shift Commander assignment, with an emergency response only by the first due fire company. All others will respond non-emergency

**Note:** It is the responsibility of the initial Incident Commander or Shift Commander to determine and communicate any response mode change to all other incoming units on every alarm.

**NON-EMERGENCY RESPONSE MODE**

The following types of calls will be responded to using the non-emergency response mode where units respond immediately to the situation with the normal flow of traffic, but without the use of audible or visual warning devices.

- Bomb Threat
- Fire report only
- Assist another agency (such as law enforcement) unless a Code 3 response is requested
- Carbon Monoxide alarms with no physical symptoms
- Elevator Emergency (unless medical concerns exist)
- Medical where a staging situation exists and it is estimated that the non-emergency response would yield a timely response or where the use of audible devices could make the scene less stable
- Lock out or lock in (unless medical concerns or extreme temperatures exist)
- Flush down of products if they are outside of a structure
- Illegal burning unless exposures are reported
- Electrical situations where life hazards are not apparent i.e. wires arcing in the trees
VARIANCE FROM DEFAULT MODE

In the event a responding officer or Shift Commander opts to vary from the default mode, they must update other responding units and fire dispatch of the change and should provide pertinent information as to why. Justifications could include, but are not limited to, the following:

• Distance (coming from another district or coming from extreme edge of your own district). Example: "Alarm from Engine 4 we are responding emergency due to distance"

• Personal knowledge (such as multiple responses to the same patient or address, known access difficulties, etc.) Example: "Dispatch from Car 3, they are having problems with their alarm system, have all units respond non-emergency".

• Pre-arrival information updates such as change in status of patient, call from building with alarm sounding, etc. Example: "Car 3 from Alarm, we got a call from suite #402 reporting an odor of smoke". "Alarm from Car 3, based on this information upgrade all units to emergency".

READINESS LEVELS

The response mode is not linked to readiness levels. It is expected that the appropriate levels of protective clothing will be used without regard to the response mode used. Those arriving at an alarm sounding are expected to be outfitted appropriately. The use of non-emergency response mode does not signal that the turnout time should be longer, only that the actual travel will be different.