

Running head: EVALUATION OF FIRE & LIFE SAFETY PROGRAM

Study of the effectiveness of

Fire and Life Safety programs in Guilford County North Carolina

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Certification statement

I hereby certify that this paper constitutes my own product, that where 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.

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Abstract

The problem was that the impact of fire & life safety education (FLSE) was unknown. This had the consequence of misappropriation of resources through ineffective programs. The purpose of this evaluative research was to determine the effectiveness of the FLSE. This research explored; the number and type of FLSE programs, the number of accidental fires in residential structures, knowledge of fire victims relative to FLSE prior to their fire event, FLSE of fire victim since the event and the most likely location where a citizen may attend a FLSE event.

This research was carried out by performing a literature review, conducting a survey of fire victims, reviewing fire investigation reports from the Guilford County Emergency Services Fire Investigation section (GCES) and FLSE reporting.

Recommendations included standardize reporting, a single FLSE coordinator as a budgeted staff member and a review of existing programs.

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Introduction

The problem is that the impact of fire & life safety education (FLSE) delivered throughout Guilford County, as it relates to audience, venue and program is unknown. This has the consequence of misappropriation of resources through ineffective programs. The purpose of this evaluative research is to determine the effectiveness of the existing programs as they are delivered throughout Guilford County. This research will answer the questions; What are the number and type of FLSE programs delivered within unincorporated Guilford County? What is the number of accidental fires occurring in residential structures as investigated by GCFMO? Did the fire victims have an opportunity to receive FLSE prior to their fire event? Have the fire victims received FLSE since being involved with their fire event? Where was the FLSE received? What is the most likely location where the fire victim would attend a FLSE event?

Background and significance

Guilford County is home to Piedmont Triad International Airport (PTIA). There are numerous suburban housing developments with homes ranging from the \$100K range to well over a million dollars in value. The county is also home to the eastern region Federal Express hub which is to come on line with Fed-Ex in late 2009/early 2010. There are numerous commercial and industrial facilities as well as multiple business parks scattered throughout the county and the triad region. The county is also a major terminus for a number of interstate highways. Interstate corridors such as I85, I95, I77 and I73 running north to south and I40 running east to west intersect in the triad area of which Guilford County is considered to be the heart of the triad.

The Guilford County Department of Emergency Services, Fire Service Division (GCES) is responsible for providing oversight for fire protection within the unincorporated areas of Guilford County North Carolina. The fire protection is provided to 22 fire districts of unincorporated Guilford County through a contractual agreement between Guilford County and 21 fire departments. These departments form an association known as the Guilford County Fire & Rescue Council (GCFRC). The county also staffs a fire service division with the purpose of providing supplemental support to the local fire districts. This is accomplished through administrative, training, public education and on-scene response and support. The GCES is solely responsible for fire investigations and fire code enforcement throughout unincorporated Guilford County. Through a cooperative effort of the GCFRC and GCES the citizens of Guilford County are afforded fire protection.

Guilford County encompasses a total of 649 square miles with a population of approximately 465,931 (Guilford County, 2009). This includes the two municipalities of High Point and Greensboro. Exclusive of these two cities, the unincorporated area is approximately 400 square miles with a population of approximately 175,000. The fire service of Guilford County, exclusive of High Point and Greensboro, consist of 19 combination fire departments with 36 fire stations and approximately 300 career firefighters and 400 volunteers collectively.

One of the major challenges facing the fire service in Guilford County is resource management. The challenge of resource management from the perspective of coordinating efforts towards a common goal and not duplicating service delivery in one area while neglecting service delivery in another area are magnified in the arena of fire

and life safety education (FLSE) . Over the past 20 years there has been significant improvement of resource management in the area of fire ground operations as well as training development and delivery. The area most lacking in support, coordination and resource management continues to be the FLSE efforts.

Because the FLSE efforts are loosely coordinated through a committee of the GCFRC in conjunction with assistance from the GCES staff there does not exist a single individual providing oversight with the authority and accountability to serve as the final decision maker. With this in mind, there is no single individual monitoring effort or output of the program. In addition there is no single records management system (RMS) which allows for compiling data to track the program impact.

Another challenge for GCES specifically is increase of staff responsibilities and workload due to budget and staffing level constraints. For many years in the 1980's and 1990's Guilford County had the benefit of a full time Fire & Life Safety Educator. That position was cut in the late 90's and the responsibility for FLSE fell to the other staff members as a whole in conjunction with the FLSE committee of the GCFRC. It is recognized that this is not an uncommon situation, given that only 12% (Home safety Council [HSC]) of career fire departments and 9% of volunteer fire departments have staff dedicated exclusively to FLSE activities.

This applied research project will examine the effectiveness of the FLSE efforts as it relates to audience, venue and program within unincorporated Guilford County. This analysis relates to terminal objective #2 in the course Executive Analysis of Community Risk Reduction (FEMA Student Manual Oct. 2008) which states "Given a community all hazards risk analysis model the student will be able to develop risk

reduction objectives”. This analysis also relates to the U.S. Fire Administration Operational Objective to reduce loss of life from fire by 15% (U.S. Department of Homeland Security, 2007).

Literature Review

Richard Bland in his letter to the President of The United States of America dated May 4, 1973 stated “The recommendations emphasize prevention of fire through implementation of local programs. This is in keeping with the very nature of the fire problem which is felt hardest at the community level” (National Commission on Fire Prevention and Crime Control, 1973). This letter was transmitted with a copy of the final report of the National Commission on Fire Prevention and Control more commonly known as America Burning. Mr. Bland also noted in his letter that during this era 12,000 fire deaths occurred annually.

In the report titled Fire Death Rate Trends produced by TriData Corporation for the United States Fire Administration (USFA) in May 1997 noted that “The U.S. fire death rate fell 46.3%, from 36.3 fire deaths per million population in 1979 to 19.5 fire deaths per million population in 1992” (National Commission on Fire Prevention and Crime Control, 1973). In 1999, 26 years after the America Burning report cited an average of 12,000 fire deaths annually the USFA reported fire deaths for that year at 3570 (USFA, 2009). Now, 10 years later the most recent statistics from USFA indicate the annual fire deaths for 2008 to be 3,320 (USFA, 2009). Of the 3,320 fire deaths in 2008, 2780 (USFA, 2009) occurred in residential structures.

From 1999 to 2008 the USFA reports an average annual loss of life due to fire death at 2995 (USFA, 2009). The USFA report Overall Fire Picture - 2008 indicates that

84% of civilian fire deaths occur in residence (USFA, 2009). These thought provoking statistics require one to consider why the greatest loss of life due to fire occurs in the one location where individuals would be expected to be most familiar with and maintain the most control over. Is it possible that the fire service has failed to educate the American public to the hazards that exist in the home? Is it possible that the American public does not care to be educated to these things? Have we as a nation developed a culture that is apathetic to preventing fire loss...even the loss of life?

In the report *Fire Death Rate Trends* (USFA, 1997)) the report states;

Americans tend to view fires as an inevitable part of life and, unlike citizens in other countries, are more prone to characterize fire as unfortunate “accidents”. When fires happen, those who lose their homes and possessions are compassionately termed “fire victims”, even in cases where the fire was a direct consequence of human behaviors. These attitudes may be reinforced by insurance practices, which generally allow home owners to insure up to 100 percent of the value of the property. In the event of a fire, owners are reimbursed for the full value of their loss, which may have the unintended effect of making people less concerned about taking precautions to minimize the risk of fire.

The fire service as a whole is attempting to reach a culture that has been enabled to transfer risk and liability for personal actions to the insurance carriers. Given the

opportunity for education on the subject of fire prevention, few appear to take advantage of the opportunity. Given this consideration the fire service has elected to attack the problem with the Three E's. (Laford, 1995 p.39) notes "Fire Prevention can be categorized into the 'Three E's'; Education, Engineering and Enforcement".

Recognizing the fact that education is not the only avenue to approach the problem the fire service has become aggressive in the arena of building code implementation and enforcement. Through the implementation of more stringent fire and building codes the fire service has an opportunity to impact property loss and ultimately the loss of life through making safer structures. As noted in the report America at Risk (FEMA, 2002 pg 22) "To date there has been much success in the use of codes and standards. However, the success must be accelerated and intensified".

The challenge encountered through application of the building codes is multifaceted. Ultimately the local jurisdiction having authority must adopt the code in its entirety for the code to be effective and secondly the code enforcement officials must interpret the code based upon the intent. Failure of either of these two components weakens the overall "E" of enforcement.

When the avenue of code enforcement is looked upon as a fire prevention measure there exist another consideration which must be taken into account also. "A significant portion of fires occur in older properties that are not equipped with current fire protection systems and are not subject to the current building codes" (Tracey, 2009). Unless a jurisdiction requires buildings to meet new codes when they are renovated or have a change of occupancy there is no way to ensure that the latest codes are applied and

the most modern technology available is provided for the safety of the occupants and firefighters.

The third “E” of engineering will often be implemented as an integral part of the overall code enforcement program. Either through new codes adopting the most modern technological developments or through standard engineering practices identifying new and safer materials for construction. In the report Vision 20/20 National Strategies for Fire Loss and Prevention (Vision 20/20 p.20-22); Strategy 4 states; “Promote technology to enhance fire and life safety” and goes on to identify one of the steps necessary to make this happen is through “developing products that eliminate or reduce ignition sources, flame spread and smoke generation”. The engineering component may also be demonstrated through enhanced building design and styles. Because the engineering and technology component is typically driven by the private sector, the fire service may be called upon for input but this facet will likely be developed with the greatest emphasis coming from private industry.

When the educational component is dissected there appears to be influencing factors such as budgetary constraints, available staff and resources necessary to engage the public when providing educational opportunities. In the City of Nashville’s Strategic Business Plan (Nashville, p.2) Issue Statement Three;

The number of occupancies in the Metropolitan Nashville and Davidson County needing formal fire prevention inspections vastly exceeds the ability of our Fire Marshal Office’s workforce to conduct such inspections, and if unaddressed will result

in a higher probability of fire exposure to our citizens.

The lack of staff to conduct fire prevention activities is readily apparent given the current economic considerations.

While it is stated that this specific Issue Statement Three is intended to address code enforcement concerns it is worth mention “code enforcement can be used as an opportunity for education” as identified in the Solutions 2000 Report (Congressional Fire Service Institute, 1999 p.3). A wise field inspector is one who uses the opportunity when interacting with the public during an inspection to take time to explain the “why” of the code. Byrne, in describing interaction with building contractors states;

The focus of the program is on the “why” of fire codes – why we have them and “why” they are important – and we prove that with facts, statistics, photos and demonstrations. We stress that fire codes are minimum standards and “why” enforcing a higher standard is needed in some situations (Byrne, 2009 p.72)

In an effort to address budgetary and staffing concerns many departments have placed the expectation of both code enforcement official and public education officer on the same individual. This combining of responsibilities concerns some in the fire service while others see it as the answer to the current issue of lean staff.

Chief Tim Vandis (Vandis, 1999 p.30) states when addressing the City of White Bear Lake Fire Department public education needs “We made it mandatory for all firefighters to dedicate a minimum of 10 hours a year to the fire prevention programs”.

While lieutenant Michael Kennedy (Kennedy, 2005 p.189) brings a different perspective “Public fire education is a skill similar to technical rescue and hazardous materials response in that it takes specially trained personnel with capital resources”. “Many of those doing fire prevention were not there by choice or talent, but because of injury or by being ‘volunteered’ by leadership” (Byrne, 2009 p.72). Regardless of how the individual was assigned to serve in the role of fire educator one thing is agreed upon by all sources; the individual must be capable and desire to serve in the role. Lt. Kennedy states;

We realized several years ago that not all firefighters enjoy or are good at public speaking. Often, the least senior person was assigned to give presentations, this forced assignment would usually be all too evident to the public and we were doing a disservice to our employees and the community. Personnel should be screened before being assigned to public education as they are for other specialty areas. (Kennedy, 2005 p.190)

Another issue that was brought to light is the consideration of personnel from a volunteer organization as compared to a career staff organization. In a study commissioned by the Home Safety Council (HSC) and conducted by Johns Hopkins surveyed fire chiefs to identify fire and life safety public practices and barriers. Markley (Markley, 2007) notes that the study revealed only 9% of volunteer departments had a specialist in the area of FLSE. The number was typically lower for volunteer departments due to the time constraints and lack of knowledge of the educational topics and methodology. The Home Safety Council study (HSC) also noted that career

departments were challenged with having dedicated staff exclusively for the purpose of FLSE. Results of the study indicate that only 12% of the career departments surveyed have a dedicated position. In place of a dedicated specialist the report states “Most of the public safety education outreach is carried out by personnel who are juggling multiple duties” (HSC).

Another challenge faced by the FLSE initiatives is the availability of resources for public interaction. Items used for educational props and supplies such as pamphlets and other printed material fall victim to the budget cuts. The Central Oregon Fire Prevention Cooperative Program (COFPC) has found ways to address shortage of resources. The COFPC (COFPC, 2002) states;

Public fire and life safety agencies and departments pool scarce resources, such as people and funding, to accomplish programs they may not otherwise be able to pursue. Providing consistent fire prevention messages across Central Oregon has been an important function of the FPC since its formation.

Accountability for the FLSE program also serves as an important factor in the success of the program. The Snohomish County Fire District No. 7 Vision 2010 Performance Measures and Target Outcomes document (Snohomish County Fire District No. 7, 2007) has identified in the performance measure the officer who holds the responsibility for each measure. The assignment of responsibility typically ensures the necessary accountability for the desired outcome.

The Office of the Fire Marshal, Ontario Canada has posted a position paper with a comprehensive Plan which outlines the details of a functional Fire Prevention

Program. The plan states in the Introduction “Needs analysis and objective planning may take a significant amount of time to complete properly. However, it is the only way to ensure that resources are used effectively”. (Ontario Canada, OFM)

The literature review demonstrates that this statement by the Office of the Fire Marshal Ontario Canada summarizes what is necessary to ensure effective resource management for proper FLSE program administration. Solutions 2000 (Congressional Fire Service Institute, 1999 p.3) states “Each of the three E’s can contribute to the development of comprehensive, realistic and effective solutions. Collectively, they can reduce the effects of fire, if not prevent them”.

The first part of this applied research project began with the literature review initially at the National Fire Academy Learning Resource Center in November 2008. Research included review of periodicals, journals as well as review of Executive Fire Officer research papers. The literature review consisted of multiple sessions between April 2009 and August 2009 using various periodicals, journals and reports. However, much of the literature review was conducted through internet search. The purpose of the literature review was to establish a framework of understanding relative to Fire and Life Safety Education programs.

Procedures

The first step of the research procedures is to identify sources of data and determine what data already exist that may be incorporated in the study of the local FLSE program as it currently exist in Guilford County. The second step in the research procedures is to determine the process that would be used to have a defined audience of

fire victims that would be available to participate in a survey. The third step of the research procedures is to determine how to apply the fire victim survey to ensure a valid response and maintain integrity of the data collected. The fourth step of the research procedures is to compare the data collected from the FLSE program offerings to the fire victim survey to determine if there were offerings available for the fire victim to have attended. An additional piece of information desired is to determine where the most likely place would be for a fire victim to attend a FLSE session.

The first step of the procedures yielded data from the GCFRC Fire and Life Safety Committee (Appendix A) as well as data compiled by GCES fire training section (Appendix B). The data included information relevant to the first research question; What are the number and type of FLSE programs delivered within unincorporated Guilford County? The limiting factors of the first procedure include; not all departments report to the GCFRC Fire and Life Safety committee neither do they report to GCES Fire Division. An additional limiting factor is the lack of a standardized method of reporting. Data is collected and assimilated as close as possible based upon similarities.

The second step of the procedures yielded data from the GCES fire investigation section (Appendix C). Fire incidents investigated by GCES were the only fire sample used; of these fires only those determined to be accidental/residential were considered as part of the survey sample of fire victims. The limitations of this procedure is the fact that only those fires deemed accidental/ residential and investigated by GCES were part of the fire victims surveyed. Not all accidental/residential fires in unincorporated Guilford County were used for the survey sample because Guilford County does not have a central RMS; therefore specific NFIRS data is not available. NFIRS data does exist for all

structure fires (Appendix D), however it does not allow for delineation to the degree intended to be studied as the GCES fire investigation reports do. This procedure will serve to answer the research question; What is the number of accidental fires occurring in residential structures as investigated by GCES?

The third step in of the research procedures involve surveying fire victims involved with accidental/residential structure fires. Only the fire incidents investigated by the GCES were used for the survey sample. Limitations found to be the lack of responsiveness by the fire victims. The victims were contacted by telephone and asked four scripted questions (Appendix E). Making contact by telephone proved to be difficult for ES staff; approximately 35% of the victims were contacted in order to generate a response from 10% (Appendix C). Challenges encountered included; phone number disconnected, wrong numbers recorded in the fire report, no answer, refused to answer questions and denied fire event occurrence. This procedure will serve to answer the research questions; Did the fire victims have opportunity to receive FLSE prior to their fire event? Have the fire victims received FLSE since being involved with their fire event? Where did the victims receive the FLSE? What is the most likely location where the fire victim would attend a FLSE event?

Definition of Terms

COFPC – Central Oregon Fire Prevention Cooperative Program

DHS – Department of Homeland Security

GCES – Guilford County Emergency Service

GCFRC –Guilford County Fire Rescue Council

FEMA –Federal Emergency Management Agency

FLSE –Fire and Life Safety Education

NFIRS – National Fire Incident Reporting System

NFPA – National Fire Protection Association

USFA-United States Fire Administration

Results

Through the evaluative research process data was collected and evaluated to determine answers to the six questions asked. Certain limitations of the data were discovered during the research process. These limitations will be further defined as each question is answered. While the author has reservations about some of the results due to data limitations, the overall research project clearly helped to define needs within the process of service delivery and records management. The literature review has also proven to be a valuable resource for further understanding the needs and opportunities with the FLSE program of Guilford County.

Research question one; What are the number and type of FLSE programs delivered within unincorporated Guilford County?

The Fire and Life Safety committee report (Appendix A) defines the type of programs offered within Guilford County. There are a total of 21 programs offered. All of the programs are not offered every year; however a count of the program breakdown is recorded by number of programs offered and type of program offered. Table 1 identifies the aggregate total of all programs offered and the number of programs offered by type. The limitations discovered with this method of reporting is that each of the individual fire districts are diluted when it is totaled. The final report as applied in appendix 1 has the totals for the county, but does not provide a break out by individual fire district.

Table 1. FLSE Programs by number and type

Year	Number of events	Number of event types
2006	2961	19
2007	4229	16
2008	3424	17

Research question two; What is the number of accidental fires occurring in residential structures as investigated by GCES?

The GCES Fire investigation report (Appendix C) provides the information as it is recorded by the GCES fire investigation section. The limitation of this data is that the number of accidental/residential structure fires provided in this report reflect only those fires investigated by the GCES fire investigation section. If an incident commander did not request an investigator to respond to the scene the GCES Fire Investigation report will not reflect the occurrence. The data provided is limited only to the fires investigated for origin and cause. Table 2 identifies the total number of accidental/residential fires investigated for origin and cause by the GCES fire investigation section.

Table 2. Number of Accidental/Residential Structure Investigated by GCES

Year	Number of Incidents
2006	50
2007	55
2008	35

Research question three; Did the fire victims have the opportunity to receive FLSE prior to their fire event?

This question may be answered from the information provided in the Fire Victim Survey Results (Appendix F). Individual surveys have been kept on file and are tracked

by the fire investigation report number. Information specific to any of the identified events may be requested through GCES. The results of the research indicate that 8 of the 15 individuals or 53.3% surveyed had prior FLSE training. Table 3 indicates the response of those surveyed.

Table 3. Victim FLSE Opportunity Prior to Event

Year	Training Received	Training not Received
2006	3	2
2007	5	1
2008	0	4

Research question four; Did the fire victims receive FLSE since being involved with their fire event?

This question may be answered from the information provided in the Fire Victim Survey Results (Appendix F). Individual surveys have been kept on file and are tracked by the fire investigation report number. Information specific to any of the identified events may be requested through GCES. The information from the survey indicates that 2 of the 15 received additional FLSE training after their fire event. It is interesting to note that one of the individuals who did not have FLSE prior to their fire event did not seek FLSE opportunities after the fire event. It is also worth noting that of the 15 individuals involved with a fire event only 2 or 13.3 % sought additional FLSE training after their fire event. Table 4 indicates the response of those surveyed.

Table 4. Victim FLSE after fire event

Year	Additional Training Received	No Additional Training Received
2006		5
2007	1	5
2008	1	3

Research question five; Where was the additional FLSE training received?

This question may be answered from the information provided in the Fire Victim Survey Results (Appendix F). Individual surveys have been kept on file and are tracked by the fire investigation report number. Information specific to any of the identified events may be requested through GCES. It is interesting to note that of the 2 individuals who received additional FLSE training after their fire event that 1 received it at the Community Fire Station and the other received it while attending classes in school.

Research question six; What is the most likely location where the fire victim would attend a FLSE event?

This question may be answered from the information provided in the Fire Victim Survey Results (Appendix F). Individual surveys have been kept on file and are tracked by the fire investigation report number. Information specific to any of the identified events may be requested through GCES. Based upon the input provided by the individuals surveyed 10 people or 66.7% would attend a FLSE at the community fire station, 3 people or 20% would attend at church and 2 or 13.3% would attend at other locations. This result would cause the question to be considered; as a normal practice does the fire service hold an open house within the community fire stations on a regular basis...should they consider this to be an opportunity? The second question that may be

considered; has the fire service normally targeted the church as an opportunity to provide the FLSE message, perhaps as an extended community outreach on behalf of the church and in partnership with the community fire station.

A snapshot of the research findings indicate that a significant number of FLSE events have occurred in Guilford County between 2006 and 2008, approximately 3000 times each year. If an individual has the desire to receive FLSE training they would have the opportunity to be involved in a session at some juncture during the average year. Of the fire victims surveyed, only 53% had taken advantage of the opportunities offered. After having a fire event only 13% sought out additional FLSE training; however 66.7% of those surveyed indicated they would attend a FLSE opportunity at their community fire station. Of the fires investigated by GCES during the period 2006-2008 approximately 30%-40% were determined to be accidental in a residential structure.

Discussion

The concept which is discussed in the report Fire Death Rate Trends (FEMA, 1997) seems to be supported by the data gleaned from the research and survey. That concept being the American citizens are still willing to view fire incidents as an unfortunate accident rather than a preventable incident. This is validated, as the report notes, by the budget allocations and staffing patterns of the American fire service as a whole. It is also validated by the lack of willingness to seek out opportunities to attend a FLSE when those opportunities are readily available as demonstrated by research question number one. Even those who had been involved in a fire incident had little interest in pursuing opportunities for FLSE, less than 13% as indicated by research question number five.

Lieutenant Byrne (Byrne, 2009 p.74) stated in his article that the concept of going offensive and seeking out opportunities needs to be embraced by the fire service. As noted in the article there are multiple venues such as code enforcement classes, culinary arts and other partnerships that can be spawned with the local community college. Each of these fields representing an area where FLSE can have a significant impact simply due to the nature of the business and trade.

This venue change should cause the fire service to take note of how and where the FLSE message is offered. The response to research question six revealed that 66.7% of those surveyed might attend a FLSE opportunity at the community fire station. In a day and time when many desire to return to community values and involvement the questions has to be posed; is the fire service missing the opportunity to provide FLSE to those who are at the door step of the community fire stations? That is not a call to abandon the children in the schools; as Ladford (Ladford, 1995 p.40) points out in his article the concept of starting with the children is extremely valuable. The fire service must continue to explore new venues of opportunity for FLSE as those venues are identified.

While new venues should be explored there are some items that shouldn't change; one of those items being passion and ability to do the job. The concept presented by Kennedy (Kennedy, 2005 p.189) is valid and thought provoking to say the least. The public deserves to receive the best the fire service has to offer. In his comparison of the public education officer with any other technical specialist such as haz-mat or tech rescue Kennedy brings a valid issue to the table. No incident commander would knowingly put an untrained firefighter in a level A suit on a haz-mat or dangling from a rope off of a tower or into a confined space to conduct a pick off or recovery. The litigation from the

public, the violation of public trust and the potential harm to everyone involved should allow common sense to overrule that type of choice.

Should the situation be any different for those who come to receive instruction and guidance from a trained professional regarding FLSE? Armed with the knowledge that individuals are gifted in different aspects of the fire service, it doesn't demonstrate good judgment on the part of the fire officer to place a timid introvert in front of a crowd and expect the fire service to be well represented (Kenndy, 2005 p.190). The quality of the FLSE program would certainly seem to have a direct relation to the individuals desire to spend their time being educated.

Because of the limitations with the RMS within Guilford County the research conducted was not handled in the fashion that would typically be expected. As noted in the limitations to the procedures some data had to be compiled from multiple sources. The data did not have a standard reporting format which limited the use and to some extent the value when attempting to make a comparison on a county wide basis. In the report Vision 20/20 (Congressional Fire Service Institute,1997p.5) it is noted that "Data collection and analysis, and its importance to fire prevention efforts, was captured as a priority that spreads throughout the five major strategic areas identified for follow up action".

A single RMS is needed within Guilford County to provide timely, standardized and accurate information. This initiative would benefit the county as a whole as well as the individual fire districts when attempting to determine the fire problem and appropriate resource allocation.

The budget and staffing considerations also have a place in the discussion. The COFPC Cooperative program which is active in Central Oregon (COFPC, 2002) identifies the initiative to pool resources in an effort to accomplish FLSE. This same process occurs, to a limited extent within Guilford County. The challenges presented in a local level appear to also be prevalent on a national level. As noted in the plan Vision 2010 Performance Measures and Target Outcomes (Snohomish County Fire District No. 7, 2007) a single individual ultimately must be found accountable for a program to ensure a successful outcome. The equipment and personnel may be pooled, but there still exist the need for a single individual to serve as the leader and decision maker.

Recommendations

Based upon the literature review, original research and data analysis the following recommendations are requested to be considered for implementation.

The need for a single RMS for county wide use by all fire service providers would allow the capture of real time data in a standard format. This would provide the benefit of enabling the GCFRC Fire and Life Safety committee to identify and prioritize the fire problem as it currently exist in Guilford County.

Given budgetary constraints the GCFRC and GCES should continue to provide coordinated and collaborative efforts towards addressing the fire problem within Guilford County through pooling resources inclusive of equipment and personnel. However, a single individual should ultimately be responsible for the FLSE program oversight and coordination.

A review of the existing program offerings and venues should be evaluated. Are the programs repeated because that is the way it has always been or is there evidence that

validates the allocation of resources. At present there is not a means to identify and measure program impact and outcome.

Consideration should be given to immediate follow up with fire victims. While the event is fresh, surveys should be conducted and future follow up with FLSE offerings either by email or postal service should be made available. This recommendation is based upon the positive feedback and appreciation demonstrated by the fire victims during the telephone survey.

Consideration should be given to budgetary request for a dedicated FLSE officer. This position has been requested from FY04/05 each year to FY 09/10 without success. Data collected through a RMS potentially could serve to validate the position. The current reports and anecdotal perception appear to demonstrate a valid need for this position.

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Appendix- A

Guilford County Fire & Rescue Council

Fire and Life Safety Report

2006-2009

Fire & Life Safety Education 32

FD / Agency ID# Central Region
 County Name Guilford County
 Person Reporting Frankie Pinnix

Month / Year 2006
 Agency Name Central Region

Number of Participants by Age Group

Age 0 - 4	<u>18882</u>
Age 5 - 10	<u>26430</u>
Age 11 - 13	<u>16272</u>
Age 14 - 18	<u>17185</u>
Adult	<u>83761</u>
Senior Adult	<u>17222</u>
Total	<u>179752</u>

Total Hours of Presentation

6331

Number of Organizations by Type

Business	<u>1489</u>
Civic Group	<u>69</u>
Daycare	<u>330</u>
Healthcare	<u>142</u>
Industrial	<u>177</u>
School	<u>586</u>
Senior Groups	<u>54</u>
Special Interest	<u>208</u>
Youth Groups	<u>48</u>
Other	<u>836</u>
Total	<u>3939</u>

Did a program save a life or reduce injury?

(circle one) **YES** **NO**

If so, give details below.

Number of Programs by Type

Bicycle Safety	<u>3</u>
Buckle Bear	<u>0</u>
Burn Prevention	<u>93</u>
Child Safety Seat	<u>118</u>
Display	<u>199</u>
Extinguisher	<u>188</u>
Falls	<u>25</u>
Farm Safety	<u>0</u>
Fire / Evacuation Drill	<u>171</u>
Water Safety	<u>2</u>
CPR	<u>1</u>
First Aid	<u>13</u>
General Fire Safety	<u>373</u>
Juvenile Fire Setters	<u>44</u>
Poison Prevention	<u>2</u>
Public Relations	<u>227</u>
Special Event	<u>419</u>
Station Tour	<u>590</u>
Remembering When	<u>7</u>
Risk Watch	<u>8</u>
Other	<u>478</u>
Total	<u>2961</u>

Safety Devices Issued

Smoke Alarms	<u>716</u>
Batteries	<u>418</u>
CO Alarms	<u>5</u>
Convertible Seat	<u>2</u>
Combination Seat	<u>0</u>
High Back Booster	<u>0</u>
No Back Booster	<u>0</u>
Special Needs	<u>0</u>
Total	<u>1141</u>

FD / Agency ID# Central Region

Month / Year **2007**

County Name Guilford
 Person Reporting

Agency Name **Central Region**

Number of Participants by Age Group

Age 0 - 4	<u>10272</u>
Age 5 - 10	<u>39675</u>
Age 11 - 13	<u>17408</u>
Age 14 - 18	<u>11202</u>
Adult	<u>81365</u>
Senior Adult	<u>25679</u>
Total	<u>185601</u>

Number of Programs by Type

Bicycle Safety	<u>4</u>
Buckle Bear	<u>n/a</u>
Burn Prevention	<u>478</u>
Child Safety Seat	<u>88</u>
Display	<u>235</u>
Extinguisher	<u>157</u>
Falls	<u>n/a</u>
Farm Safety	<u>n/a</u>
Fire / Evacuation Drill	<u>83</u>
Water Safety	<u>3</u>
CPR	<u>n/a</u>
First Aid	<u>322</u>
General Fire Safety	<u>299</u>
Juvenile Fire Setters	<u>48</u>
Poison Prevention	<u>n/a</u>
Public Relations	<u>604</u>
Special Event	<u>181</u>
Station Tour	<u>381</u>
Remembering When	<u>29</u>
Risk Watch	<u>8</u>
Other	<u>1309</u>
Total	<u>4229</u>

Total Hours of Presentation

6752.5

Number of Organizations by Type

Business	<u>58</u>
Civic Group	<u>8</u>
Daycare	<u>47</u>
Healthcare	<u>8</u>
Industrial	<u>18</u>
School	<u>80</u>
Senior Groups	<u>23</u>
Special Interest	<u>68</u>
Youth Groups	<u>27</u>
Other	<u>78</u>
Total	<u>415</u>

Safety Devices Issued

Smoke Alarms	<u>635</u>
Batteries	<u>418</u>
CO Alarms	<u>n/a</u>
Convertible Seat	<u>64</u>
Combination Seat	<u>n/a</u>
High Back Booster	<u>n/a</u>
No Back Booster	<u>n/a</u>
Special Needs	<u>272</u>
Total	<u>1189</u>

Did a program save a life or reduce injury?

(circle one) **YES** **NO**

If so, give details below.

FD / Agency ID# Central Region

Month / Year **2008**

County Name Guilford
 Person Reporting

Agency Name **Central Region**

Number of Participants by Age Group

Age 0 - 4	<u>54371</u>
Age 5 - 10	<u>8269</u>
Age 11 - 13	<u>2571</u>
Age 14 - 18	<u>8840</u>
Adult	<u>48514</u>
Senior Adult	<u>10001</u>
Total	<u>132566</u>

Number of Programs by Type

Bicycle Safety	<u>2</u>
Buckle Bear	<u>0</u>
Burn Prevention	<u>461</u>
Child Safety Seat	<u>148</u>
Display	<u>234</u>
Extinguisher	<u>135</u>
Falls	<u>0</u>
Farm Safety	<u>0</u>
Fire / Evacuation Drill	<u>76</u>
Water Safety	<u>9</u>
CPR	<u>18</u>
First Aid	<u>0</u>
General Fire Safety	<u>314</u>
Juvenile Fire Setters	<u>42</u>
Poison Prevention	<u>2</u>
Public Relations	<u>295</u>
Special Event	<u>380</u>
Station Tour	<u>89</u>
Remembering When	<u>13</u>
Risk Watch	<u>161</u>
Other	<u>1045</u>
Total	<u>3424</u>

Total Hours of Presentation *** 2736**

Number of Organizations by Type

Business	<u>48</u>
Civic Group	<u>0</u>
Daycare	<u>59</u>
Healthcare	<u>9</u>
Industrial	<u>18</u>
School	<u>129</u>
Senior Groups	<u>20</u>
Special Interest	<u>84</u>
Youth Groups	<u>30</u>
Other	<u>212</u>
Total	<u>609</u>

Safety Devices Issued

Smoke Alarms	<u>709</u>
Batteries	<u>903</u>
CO Alarms	<u>0</u>
Convertible Seat	<u>308</u>
Combination Seat	<u>0</u>
High Back Booster	<u>0</u>
No Back Booster	<u>0</u>
Special Needs	<u>0</u>
Total	<u>1920</u>

Did a program save a life or reduce injury?
 (circle one) **YES** **NO**

If so, give details below.

Appendix – B

Guilford County Emergency Services

Fire Life Safety Education Report

2006-2009

Date	Fire Prevention Type	Location	GCES Personnel	Other Personnel	Hours
10-Feb-06	Fire Extinguisher Class	Pleasant Garden FD	3	5	2
13-Mar-06	Pick-up Smoke Detectors	GCES Base 3	3	0	3
22-Mar-06	VIP for the VIP	Ragsdale High	3	10	6
02-May-06	Public Education	Sumner Elementary	3	12	4
20-Jun-06	Public Education	Sedalia Elementary	3	25	5
01-Jul-06	Fire Safety Event	Pleasant Garden FD	3	4	3
10-Jul-06	Move F&LS House	Summerfield FD	4	5	2
11-Jul-06	Fire Safety Event	Summerfield FD	3	5	6
11-Jul-06	Move F&LS House	Whitsett FD	3	0	2
27-Jul-06	Move F&LS House	Pleasant Garden FD	3	0	1.5
08-Aug-06	Camp Care Free	Stokesdale Hwy 220 N.	3	10	8
18-Aug-06	NC Fire Conference	Pinecroft-Sedgefield FD	3	4	4
21-Aug-06	NC Fire Conference	Koury Convention Center	4	10	4
23-Aug-06	NC Fire Conference	Koury Convention Center	3	8	4
24-Aug-06	NC Fire Conference	Koury Convention Center	3	7	4
25-Aug-06	NC Fire Conference	Koury Convention Center	3	11	4
26-Aug-06	NC Fire Conference	Koury Convention Center	3	9	5
05-Sep-06	Fire Prevention Meeting	GCES Base 3	5	0	2
11-Sep-06	F&LS Meeting	GCES Base 3	4	12	3
12-Sep-06	MDA Meeting	GCES Base 3	4	0	3
15-Sep-06	F&LS Day	Costco Parking Lot	3	3	2
16-Sep-06	F&LS Day	Costco Parking Lot	5	150	6
23-Sep-06	Fire Safety Event	McLeansville FD	3	3	2
23-Sep-06	F&LS Meeting	Whitsett FD	3	3	2
23-Sep-06	Public Education	Knox Rd @ Burlington Rd	3	4	4
27-Sep-06	Public Education	Sedalia Town Hall	6	8	1
30-Sep-06	Public Education	Spear's YMCA	3	5	2

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06					
07-Oct-06	Move F&LS House	Alamance FD	3	0	2
08-Oct-06	Open House Event	McLeansville FD	5	25	5
09-Oct-06	Public Education	Pincroft-Sedgefield FD	3	7	3
21-Oct-06	Public Education	Fire District # 13 Station 55	3	13	4
21-Oct-06	Move "Pluggie"	Pleasant Garden FD	3	0	2
25-Oct-06	VIP for the VIP	Southeast High School	3	12	6
04-Nov-06	Public Education	Horse Pen Creek @ New Garden	4	4	2
30-Nov-06	Public Education Materials	GCES Base 3	3	0	0.5
30-Nov-06	Public Education	Juvenile Detention Center	3	6	3
30-Nov-06	Public Education Materials	GCES Base 3	3	0	1
02-Dec-06	Christmas Parade	Pleasant Garden FD	3	8	3
04-Dec-06	FF Appreciation Diner	Summerfield FD	5	23	2
07-Dec-06	Public Education	Juvenile Detention Center	4	6	3
09-Dec-06	Christmas Parade	Stokesdale FD	3	11	2
10-Dec-06	Public Education	Summerfield FD	4	5	3
14-Dec-06	Public Education	Juvenile Detention Center	3	6	3
Average GCES Personnel			Avg. Other Personnel		Total Hrs.
			3.42	10.21	139.00

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Date	Fire Prevention Type	Location	GCES Personnel	Other Personnel	Hours
09-Jan-07	FFWebster/Child Fat.Prev.	GC health Dept	1	15	8
21-Jan-07	EGHS Service	Mt. Pleasant UMC	4	100	2
27-Jan-07	Sedalia Town Hall PubEd	Sedalia Town Hall	6	15	1
02-Feb-07	Fire Prev. Class	CITI Corp.	4	5	2
05-Feb-07	F&LS Meeting	Base 3	1	8	3
23-Feb-07	Set up Ext. Cass for FD13	Turnbridge Apts.	1	6	1
14-Mar-07	Ext. Class for DOT	Guilford Co. DOT	3	10	2
21-Mar-07	Pub Ed Class	McLeansville Elementary	3	25	2
25-Mar-07	News & Record Interview	Sta.47	2	1	4
13-Apr-07	Pub-Ed Class	Millis Rd. Elementary	3	25	2
13-Apr-07	Smoke Detectors to FD13	FD 13	3	0	1
18-Apr-07	P/U Deliver & Return SmHs	First Presbyterian Ch GBO	4	50	3
03-May-07	Commissioner Proc./Fire	Old Courthouse	8	200	2
18-May-07	Meals on Wheels	Guilford Co.	3	0	2
14-Jun-07	Pub-Ed Class	Lake Brandt Baptist Ch	4	50	2
17-Jun-07	Create FP Database	Sta.47	2	0	2
20-Jun-07	Safe Guilford	Sedalia Elementary	4	50	6
11-Jul-07	Safe Guilford	Summerfield Elementary	4	50	6
14-Jul-07	Prep for Open House	Sta.47	4	4	3
15-Jul-07	Assist w Open House	Sta.47	4	75	3
01-Aug-07	Safe Guilford	Pleasant Garden Elementary	4	50	6
01-Aug-07	P/U FireExt. Tng.System	Base 3	4	0	1
02-Aug-07	Drop-off Smoke Det.	PGFD	3	0	1
07-Aug-07	Pub-Ed Class	Hanah's Haven	4	10	2
07-Aug-07	National Night Out Event	Guilford Hills Park	4	100	3
14-Aug-07	Fire Ext. Class	Sta. 31 District	3	25	3
18-Aug-07	Pub-Ed Event	Sedalia Founders Day	3	75	2

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22-Aug-07	P/U & Return Pluggie	Base 3	3	0	2
25-Aug-07	F&LS Day w/FD13	Lebanon Baptist Ch.	4	100	4
08-Sep-07	Pub-Ed CERT Team	Sedalia Town Hall	3	10	2
09-Sep-07	Sept. 11 Remembrance	Lawndale Baptist Church	4	200	2
12-Sep-07	P/U Smoke Det.	Base 3	4	0	1
15-Sep-07	F&LS Day w/GCF&LSC	Costco	12	150	6
21-Sep-07	Deliver Smoke Det.	Sta.6	4	0	1
24-Sep-07	Work on FP Website	Sta.47	2	0	1
27-Sep-07	Pick up 12 Smoke Det.	To Sta. 47	4	0	1
12-Oct-07	Admin Work for FP Event	Set for Sedalia Elem. Program	1	1	0.5
23-Oct-07	SGHS VIP Program	SGHS	4	300	6
30-Oct-07	Fire Ext. Class	Replacements Ltd.	4	55	2
02-Nov-07	P/U And Deliver Smoke Det	Colfax FD	4	2	1
20-Nov-07	Pub-Ed Class	Pub-Ed class at GTCC	4	30	2
29-Nov-07	F&LS Planning Mtg.	Base 3	5	0	2
11-Dec-07	Assist w/ F&LS Trailer	Preparedness Expo Coliseum	6	350	7
Average GCES Personnel			Avg. Other Personnel		Total Hrs.
			3.74	49.93	

Appendix – C
Guilford County Emergency Services
Fire Investigation Reports
2006-2008

Fire Investigation #	Fire Investigation Type	Fire Cause	Close out code
06-001	Res structure	Set	Intentional
06-002	Com structure	Electrical	Accidental
06-003	Res structure	Set	Intentional
06-004	Vehicle		Accidental
06-005	Res structure	Electrical	Accidental
06-006	Vehicle		Undetermined
06-007	Res structure	Set	Intentional
06-008	Vehicle	Mechanical	Accidental
06-009	Res structure	Light bulb next to comb	Accidental
06-010	Com structure	Lighter	Intentional
06-011	Res structure	maint worker	Accidental
06-012	Tree	Lighter	Intentional
06-013	Res structure	Heating unit	Accidental
06-014	Res structure		Undetermined
06-015	Vehicle		Accidental
06-016	Res structure		Accidental
06-017	Res structure	Electrical	Accidental
06-018	Res structure		Accidental
06-019	Res structure		Undetermined
06-020	Res structure		Undetermined
06-021	Res structure		Accidental
06-022	Vehicle		Accidental
06-023	Res structure		Accidental
06-024	Com structure		Accidental
06-025	Vehicle		Intentional
06-026	Com structure		Accidental
06-027	Res structure		Accidental
06-028	Res structure	Lighter	Intentional
06-029	Res structure		Undetermined
06-030	Debris		Undetermined
06-031	Woods / outside	Matches	Intentional
06-032	Res structure	Smoking	Accidental
06-033	Res structure		
06-034	Woods / outside	Matches	Intentional

06-035	Woods / outside		Accidental
06-036	Woods / outside	Matches	Intentional
06-037	Woods / outside	Matches	Intentional
06-038	Res structure		Intentional
06-039	Vehicle		Accidental
06-040	Vehicle		Accidental
06-041	Res structure	Smoking	Accidental
06-042	Res structure		Accidental
06-043	Explosion	Chemical reaction	Intentional
06-044	Vehicle		Intentional
06-045	Com structure	Mechanical failure	Accidental
06-046	Res structure		Accidental
06-047	Vehicle		Accidental
06-048	Debris		Intentional
06-049	Res structure	Electrical	Accidental
06-050	Res structure	Matches	Accidental
06-051	Res structure	Electrical	Accidental
06-052	Res structure	Electrical	Accidental
06-053	Com structure	Lighter	Intentional
06-054	Res structure		Accidental
06-055	Res structure		Accidental
06-056	Debris	lighter	Intentional
06-057	Res structure	Lightening	Accidental
06-058	Vehicle		Accidental
06-059	Debris	Lighter	Intentional
06-060	Com structure		Undetermined
06-061	Com structure	Mechanical	Accidental
06-062	Res structure		Accidental
06-063	Res structure	Electrical	Accidental
06-064	Res structure		Undetermined
06-065	Res structure		Intentional
06-066	Res structure		Accidental
06-067	Res structure		Accidental
06-068	Vehicle		Accidental
06-069	Com structure	Mechanical	Accidental
06-070	Explosion	Chemical device	Intentional
06-071	Res structure		Intentional
06-072	Debris	Lighter	Intentional
06-073	Debris	Matches	Intentional
06-074	Debris	Lighter	Intentional
06-075	Debris	Lighter	Intentional

06-076	Res structure	mechanical	Accidental
06-077	Res structure		Accidental
06-078	Res structure		Accidental
06-079	Res structure		Undetermined
06-080	Res structure	Smoking	Accidental
06-081	Res structure		Intentional
06-082	Res structure	Lightening	Accidental
06-083	Res structure	Electrical	Accidental
06-084	Res structure		Undetermined
06-085	Res structure	Lightening	Accidental
06-086	Vehicle		Accidental
06-087	Com structure		Undetermined
06-088	Res structure		Accidental
06-089	Res structure		Accidental
06-090	Vehicle		Intentional
06-091	Mailbox		Intentional
06-092	Mailbox		Intentional
06-093	Molotof in roadway		Intentional
06-094	Mailbox		Intentional
06-095	Res structure	Electrical	Accidental
06-096	Debris		Accidental
06-097	Vehicle		Accidental
06-098	Res structure		Accidental
06-099	Outbuilding		Intentional
06-100	Outbuilding		Accidental
06-101	Com structure	Lighter	Intentional
06-102	Vehicle		Accidental
06-103	Res structure		Intentional
06-104	Vehicle		Intentional
06-105	Res structure		Intentional
06-106	Vehicle		Accidental
06-107	Debris	Lighter	Intentional
06-108	Res structure	Heating unit	Accidental
06-109	Vehicle	Electrical	Accidental
06-110	Res structure	Smoking	Accidental
06-111	Outbuilding		Accidental
06-112	Com structure	Electrical	Accidental
06-113	Vehicle		Intentional
06-114	Res structure		Intentional
06-115	Com structure	Lighter	Intentional
06-116	Outbuilding		Accidental

06-117	Outbuilding		Intentional
06-118	Res structure		Accidental
06-119	Res structure		Accidental
06-120	Res structure		Accidental
06-121	Res structure		Accidental
06-122	Res structure		Undetermined
06-123	Vehicle		Intentional
06-124	Com structure	Lighter	Intentional
06-125	Res structure		Intentional
06-126	Res structure	Electrical	Accidental
06-127	Res structure		Accidental
06-128	Com structure		Intentional
06-129	Res structure		Accidental
06-130	Vehicle		Intentional
06-131	Vehicle		Intentional
06-132	Mailbox		Intentional
06-133	Res structure		Accidental
06-134	Debris		Intentional
06-135	Vehicle		Intentional
06-136	Outbuilding		Accidental
06-137	Outbuilding		Accidental
06-138	Debris	Matches	Intentional
06-139	Res structure		Intentional
06-140	Res structure		Accidental
06-141	Res structure		Accidental
06-142	Res structure		Intentional
06-143	Res structure		Accidental
06-144	Debris	Lighter	Intentional
06-145	Woods / outside		Accidental
06-146	Res structure		Undetermined
06-147	Outbuilding		Undetermined
06-148	Vehicle		Intentional
06-149	Woods / outside		Accidental
06-150	Woods / outside		Accidental
06-151	Woods / outside		Accidental
06-152	Res structure	Imp. Discarded ashes	Accidental
06-153	Mailbox		Intentional
06-154	Res structure		Intentional
06-155	Attempt arson / Res	Gas poured no ignition	Intentional
06-156	Res structure		Intentional
06-157	Vehicle		Intentional

06-158	Mailbox		Intentional
06-159	Res structure		Intentional
06-160	Vehicle		Intentional
06-161	Debris		Intentional

Fire Investigation #	Fire Investigation Type	Fire Cause	Close out code
07-001	Outbuilding		Accidental
07-002	Res structure		Accidental
07-003	Res structure		Accidental
07-004	Res structure		Accidental
07-005	Res structure		Accidental
07-006	Res structure	Heating equip	Accidental
07-007	Outbuilding		Intentional
07-008	Vehicle		Intentional
07-009	Vehicle		Accidental
07-010	Res structure	Electrical	Accidental
07-011	Mailbox		Intentional
07-012	Vehicle		Accidental
07-013	Res structure		Accidental
07-014	Res structure		Accidental
07-015	Res structure		Accidental
07-016	Res structure		Accidental
07-017	Res structure	Heating equip	Accidental
07-018	Vehicle		Intentional
07-019	Res structure		Undetermined
07-020	Res structure		Undetermined
07-021	Res structure		Intentional
07-022	Woods/outside	Lighter	Intentional
07-023	Res structure	Heating equip	Accidental
07-024	Vehicle		Intentional
07-025	Res structure	Unsafe structure	No fire
07-026	Res structure		Accidental
07-027	Vehicle		Undetermined
07-028	Res structure		Accidental
07-029	Com structure		Accidental
07-030	Vehicle		Accidental
07-031	Res structure		Accidental
07-032	Com structure		Accidental
07-033	Woods/outside		Intentional
07-034	Woods/outside		Accidental
07-035	Res structure		Accidental
07-036	Res structure		Accidental
07-037	Vehicle		Accidental
07-038	Woods/outside		Undetermined

07-039	Woods/outside		Undetermined
07-040	Vehicle		Accidental
07-041	Com structure		Intentional
07-042	Outbuilding		Undetermined
07-043	Com structure		Accidental
07-044	Com structure		Intentional
07-045	Res structure	Smoking	Accidental
07-046	Woods/outside		Intentional
07-047	Woods/outside		Intentional
07-048	Outbuilding	Mechanical equip	Accidental
07-049	Vehicle		Accidental
07-050	Com structure		Intentional
07-051	Res structure		Accidental
07-052	Res structure		Intentional
07-053	Res structure		Intentional
07-054	Res structure		Intentional
07-055	Com structure		Intentional
07-056	Res structure		Accidental
07-057	Outbuilding	Lighter	Intentional
07-058	Com structure		Intentional
07-059	Outbuilding		Intentional
07-060	Com structure		Accidental
07-061	Outbuilding		Accidental
07-062	Res structure		Accidental
07-063	Res structure		Accidental
07-064	Res structure		Accidental
07-065	Woods/outside		Undetermined
07-066	Res structure		Undetermined
07-067	Res structure	Mechanical equip	Accidental
07-068	Vehicle		Accidental
07-069	Com structure		Intentional
07-070	Res structure	Mechanical equip	Accidental
07-071	Res structure	Electrical	Accidental
07-072	Res structure	Candle	Accidental
07-073	Res structure		Intentional
07-074	Res structure		Accidental
07-075	Debris		Intentional
07-076	Outbuilding		Intentional
07-077	Res structure		Accidental
07-078	Mailbox		Intentional
07-079	Mailbox		Intentional

07-080	Mailbox		Intentional
07-081	Burn victim	Fire works	Accidental
07-082	Mailbox		Intentional
07-083	Debris		Intentional
07-084	Vehicle		Intentional
07-085	Vehicle		Intentional
07-086	Res structure	Electrical	Accidental
07-087	Res structure		Accidental
07-088	Res structure		Accidental
07-089	Woods/outside		Intentional
07-090	Debris		Undetermined
07-091	Res structure		Accidental
07-092	Res structure		Accidental
07-093	Woods/outside		Intentional
07-094	Woods/outside		Intentional
07-095	Woods/outside		Intentional
07-096	Woods/outside		Accidental
07-097	Com structure	Electrical	Accidental
07-098	Res structure		Accidental
07-099	Com structure		Accidental
07-100	Res structure		Accidental
07-101	Woods/outside		Accidental
07-102	Com structure		Accidental
07-103	Outbuilding		Accidental
07-104	Res structure		Accidental
07-105	Res structure		Accidental
07-106	Woods/outside		Accidental
07-107	Debris		Intentional
07-108	Debris		Intentional
07-109	Res structure		Accidental
07-110	Com structure	Heating equip	Accidental
07-111	Res structure		Accidental
07-112	Vehicle		Intentional
07-113	Res structure	Electrical	Accidental
07-114	Res structure		Accidental
07-115	Res structure		Intentional
07-116	Vehicle	Electrical	Accidental
07-117	Res structure		Intentional
07-118	Res structure		Intentional
07-119	Outbuilding		Accidental
07-120	Vehicle		Intentional

07-121	Vehicle		Intentional
07-122	Com structure		Intentional
07-123	Vehicle		Accidental
07-124	Outbuilding		Accidental
07-125	Com structure	Electrical	Accidental
07-126	Woods/outside		Intentional
07-127	Woods/outside		Accidental
07-128	Com structure		Intentional
07-129	Res structure	Electrical	Accidental
07-130	Res structure		Accidental
07-131	Vehicle		Accidental
07-132	Res structure		Accidental
07-133	Res structure		Intentional
07-134	Res structure		Intentional
07-135	Woods/outside		Intentional
07-136	Com structure	Heating equip	Accidental
07-137	Res structure	Electrical	Accidental
07-138	Com structure	Mechanical equip	Accidental
07-139	Res structure		Accidental
07-140	Com structure		Intentional
07-141	Com structure		Intentional
07-142	Res structure	Electrical	Accidental
07-143	Res structure		Accidental
07-144	Debris		Intentional
07-145	Res structure		Accidental
07-146	Com structure		Intentional
07-147	Woods/outside		Intentional
07-148	Res structure	Ashes discarded	Accidental
07-149	Res structure		
07-150	Res structure		
07-151	Res structure		Intentional
07-152	Com structure		Intentional
07-153	Res structure		Accidental
07-154	Res structure	Heating equip	Accidental
07-155	Res structure	Electrical	Accidental
07-156	Vehicle		Accidental
07-157	Res structure		Accidental
07-158	Res structure		Intentional
07-159	Vehicle		Accidental
07-160	Vehicle		Intentional
07-161	Outbuilding		Intentional

Fire Investigation #	Fire Investigation Type	Fire Cause	Close out code
08-001	Vehicle		Accidental
08-002	Res structure		Accidental
08-003	Res structure	Heating Equipment	Accidental
08-004	Vehicle		Accidental
08-005	Com structure		Accidental
08-006	Res structure		Accidental
08-007	Com structure		Intentional
08-008	Mailbox		Intentional
08-009	Res structure		Accidental
08-010	Vehicle		Accidental
08-011	Res structure		Accidental
08-012	Outbuilding	Electrical	Accidental
08-013	Com structure	Heating Equipment	Accidental
08-014	Res structure		Accidental
08-015	Outbuilding		Accidental
08-016	Res structure	Cooking unattended	Accidental
08-017	Com structure	Heating Equipment	Accidental
08-018	Outbuilding		Accidental
08-019	Woods/outside		Accidental
08-020	Res structure		Undetermined
08-021	Vehicle		Undetermined
08-022	Com structure		Intentional
08-023	Vehicle		Intentional
08-024	Res structure		Accidental
08-025	Res structure		Intentional
08-026	Vehicle		Intentional
08-027	Vehicle		Intentional
08-028	Res structure		Accidental
08-029	Com structure		Accidental
08-030	Res structure		Accidental
08-031	Outbuilding		Accidental
08-032	Res structure	Heating Equipment	Accidental
08-033	Vehicle		Accidental
08-034	Outbuilding		Accidental
08-035	Debris		Accidental
08-036	Vehicle		Intentional
08-037	Vehicle		Intentional

08-038	Res structure	Electrical	Accidental
08-039	Com structure		Intentional
08-040	Com structure		Intentional
08-041	Res structure	Electrical	Accidental
08-042	Vehicle		Accidental
08-043	Com structure		Accidental
08-044	Woods/outside		Intentional
08-045	Woods/outside		Undetermined
08-046	Vehicle		Accidental
08-047	Com structure		Intentional
08-048	Vehicle		Intentional
08-049	Com structure		Intentional
08-050	Vehicle		Accidental
08-051	Res structure		Accidental
08-052	Vehicle		Accidental
08-053	Res structure		Accidental
08-054	Outbuilding		Accidental
08-055	Com structure	Electrical	Accidental
08-056	Vehicle		Accidental
08-057	Res structure	Electrical	Accidental
08-058	Com structure	Mechanical Equipment	Accidental
08-059	Com structure		Intentional
08-060	Vehicle		Accidental
08-061	Vehicle		Intentional
08-062	Res structure		Intentional
08-063	Vehicle		Intentional
08-064	Vehicle		Intentional
08-065	Outbuilding		Undetermined
08-066	Res structure	Electrical	Accidental
08-067	Woods/outside		Undetermined
08-068	Woods/outside		Accidental
08-069	Res structure		Accidental
08-070	Res structure		Accidental
08-071	Vehicle		Intentional
08-072	Res structure		Undetermined
08-073	Vehicle		Accidental
08-074	Outbuilding		Undetermined
08-075	Vehicle		Intentional
08-076	Res structure		Intentional
08-077	Res structure		Intentional
08-078	Com structure		Intentional

08-079	Res structure		Accidental
08-080	Vehicle		Intentional
08-081	Woods/outside		Intentional
08-082	Res structure		Accidental
08-083	Res structure		Intentional
08-084	Com structure	Electrical	Accidental
08-085	Res structure	Cooking unattended	Accidental
08-086	Vehicle		Undetermined
08-087	Woods/outside		Intentional
08-088	Vehicle	Electrical	Accidental
08-089	Res structure		Accidental
08-090	Res structure		Intentional
08-091	Woods/outside		Accidental
08-092	Woods/outside		Intentional
08-093	Vehicle		Accidental
08-094	Com structure	Cooking unattended	Accidental
08-095	Vehicle		Undetermined
08-096	Vehicle		Intentional
08-097	Vehicle		Intentional
08-098	Burn Injury		Accidental
08-099	Vehicle		Accidental
08-100	Woods/outside		Undetermined
08-101	Res structure		Accidental
08-102	Res structure		Intentional
08-103	Res structure		Accidental
08-104	Outbuilding		Accidental
08-105	Woods/outside		Intentional
08-106	Com structure		Intentional
08-107	Res structure		Accidental
08-108	Vehicle		Accidental
08-109	Outbuilding		Accidental
08-110	Vehicle		Intentional
08-111	Res structure		Accidental
08-112	Com structure	Electrical	Accidental
08-113	Debris		Intentional
08-114	Com structure		Undetermined
08-115	Outbuilding		Undetermined
08-116	Com structure		Undetermined
08-117	Com structure		Undetermined
08-118	Res structure		Accidental
08-119	Vehicle		Accidental

08-120	Res structure		Accidental
08-121	Com structure	Electrical	Intentional
08-122	Res structure		Intentional
08-123	Res structure		Accidental
08-124	Outbuilding		Undetermined
08-125	Res structure		Accidental
08-126	Com structure	Electrical	Accidental
08-127	Vehicle		Intentional
08-128	Com structure		Intentional
08-129	Com structure		Intentional
08-130	Vehicle	Electrical	Accidental
08-131	Res structure	Electrical	Accidental
08-132	Res structure		Intentional
08-133	Vehicle		Intentional
08-134	Res structure	Heating Equipment	Accidental
08-135	Explosion	Bomb	False Call
08-136	Res structure		Undetermined
08-137	Vehicle		Intentional
08-138	Com structure		Intentional
08-139	Res structure		Accidental
08-140	Res structure		Undetermined
08-141	Vehicle		Intentional
08-142	Res structure		Accidental
08-143	Outbuilding	Electrical	Accidental

Appendix – D

NC Office of State Fire Marshal

National Fire Incident Reporting System

Report of Structure Fires

2006-2009

Year	Total Structure Fires Unincorporated Guilford County
2006	1105
2007	1060
2008	977

Appendix – E

Fire Victim Survey Instrument

Fire Victim Survey

1. Did you have any type of fire prevention training prior to your fire incident that helped you respond to your fire incident?

Yes No Undetermined

2. Did you receive the training from your local fire department?

Yes No Undetermined Where_____

3. Since your fire incident have you received fire prevention training?

Yes No Undetermined Where_____

4. Where would you be most likely to attend a fire prevention training session?

Civic club Church Community watch

Community Fire Station Other

Incident #_____

Incident Address _____

Fire District _____

Victim Name _____

Phone Numbers _____

Appendix – F

Fire Victim Survey Report

2006 – 2009

Fire & Life Safety Education 59

Fire investigation report ID number	06-027	06-052	06-054	06-121	06-133
Fire District / Station number	MFD-47	SFD- 9	MFD-47	GCFD-17	RFD-13
Number of offerings of FLSE in the fire district during 2006	2	2	2	1	1
1) Did you have any type of fire prevention training prior to your fire incident that helped you respond to your fire incident?	No	Yes	No	Yes	Yes
2) Did you receive the training from your local fire department?	No	No	Yes	Yes	No
3) Since your fire incident have you received fire prevention training?	No	No	No	No	No
4) Where would you be most likely to attend a fire prevention training session?	Community Fire Station	Community Fire Station	Church or school	Church	Community Fire Station

Fire & Life Safety Education 60

Fire investigation report ID number	07-026	07-063	07-100	07-132	07-143	07-155
Fire district / station number	GFD-6	NEFD - 32	OFD-15	GFD-10	HPFD-18	PSFD-24
Number of offerings of FLSE in the fire district during 2007	0	0	0	4	1	8
1) Did you have any type of fire prevention training prior to your fire incident that helped you respond to your fire incident?	Yes	Yes	No	Yes	Yes	Yes
2) Did you receive the training from your local fire department?	No	Yes	No	Yes	Und	No
3) Since your fire incident have you received fire prevention training?	No	Yes - FD	No	No	No	No
4) Where would you be most likely to attend a fire prevention training session?	Community Fire Station	School	Community Fire Station	Community Fire Station	Community Fire Station	Other

Fire Investigation report ID number	08-024	08-028	08-030	08-089
Fire district / station number	AFD-54	SFD-9	RFD-13	CFD-35
Number of FLSE offerings in the fire district during 2008	1	3	1	2
1) Did you have any type of fire prevention training prior to your fire incident that helped you respond to your fire incident?	No	No	No	No
2) Did you receive the training from your local fire department?	No	No	No	No
3) Since your fire incident have you received fire prevention training?	No	Yes-school	No	No
4) Where would you be most likely to attend a fire prevention training session?	Community Fire Station	Church	Community Fire Station	Community Fire Station