

The Role of the Community College in Providing Risk Reduction Education

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Certification Statement

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### Abstract

This applied research paper explored the comprehensive multi-hazard community risk reduction philosophy and the role of the community college. The problem was that there was not a comprehensive community risk reduction model that is integrated with the curriculum of the Fire Science and Safety Associate Degree program at Elgin Community College. The research purpose of this applied research project was to identify a community risk reduction model that could be integrated into the Elgin Community College's Fire Science and Safety Associate Degree curriculum. The descriptive research methodology was selected to explore the following four research questions: (a) what are the community risk reduction model components that should be included in the Elgin Community College Fire Science and Safety Associate Degree curriculum; (b) What are the community risk reduction models used by agencies within the Elgin Community College District 509; (c) How do other community colleges with Fire Science Associate Degrees structure community risk reduction models to best integrate with curriculum; (d) What community risk reduction models would meet the Elgin Community College Fire Science and Safety Degree curriculum requirements? Research was conducted utilizing questionnaire, interview, and observation research tools to collect and record data for each research question. The results included: the diverse structure and elements of risk reduction plans and the value of community risk reduction. Many community colleges provide community risk reduction education within the curriculum of the fire science program. The recommendations based on the research and literature conducted for this work included the expansion of Fire Science and Safety Advisory Board to include municipal leaders and citizen representatives reflective of the community and the inclusion of risk reduction skills in correlation to the comprehensive fire service development model at Elgin Community College.

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### **The Role of the Community College in Providing Risk Reduction Education**

Society has long been concerned with the impact of manmade and naturally occurring disasters. As early as 1755, local officials helped residents of Boston, who were impacted by an earth quake (Schneider, 1995, p. 19). The fire service has been involved in prevention activities in some shape or form since its inception. The Portland Oregon Fire Department engaged in home safety inspections beginning in 1914 (Vision 20/20, 2011, p. 20). Over time, the focus and methodologies for dealing with disasters, whether manmade or naturally occurring, has changed as the paradigm has shifted. In many cases the changes in methodologies were driven by those risks present in the community.

The fire service's interest in risk reduction and prevention has historically been driven by the desire to reduce unwanted fires and the associated losses. However, comprehensive multi-hazard community risk reduction is a more focused effort to reduce risk within the community in a broader context (Vision 20/20, 2011, p. 19). The value of engaging in community risk reduction is significant (Vision 20/20, 2011, p. 5). Current economic conditions have been the catalyst for change with respect to funding for the fire service. The ultimate goal of comprehensive community risk reduction is to change long term behaviors and attitudes (Vision 20/20, 2011, p. 10).

Government bodies have focused on planning and developing communities since the initial settlement of Europeans in North America (Birch, 2009, p. 3). Governments engage in the planning process to create a desirable place to live (Birch, 2009, p. 23). Government planners are focused on providing safe communities that are designed to minimize hazards and serve vulnerable populations, in a cost effective manner (Birch, 2009, p. 24).

Community colleges, the oldest being founded in 1901 in Joliet, IL, have also been concerned with the well being of the communities they serve (Phillippee & Patton, 2000, p. 17). By their very design community colleges are in and of the community (American Association of Community Colleges, 2006, p. 1). Many community colleges have expanded beyond their original mission to offer a wide breath of educational disciplines (Phillippee & Patton, 2000, p. 20). In fact, 86% of firefighters obtained their credentials from a community college (National Center for Educational Statistics, 2003).

Community colleges have revised the content of curriculum and educational methodologies as the paradigm has shifted with respect to disaster preparedness and training (American Association of Community Colleges, 2006, p. 1). Similar to the fire service, many community colleges are involved with the community planning process, which provides the community college with a unique role in responding to community risk. Additionally, the expanded role of the community college, with respect to general education higher learning, is an essential component of preparing the fire service to think critically, and act professionally.

The problem is that there is not a comprehensive community risk reduction model that is integrated with the curriculum of the Fire Science and Safety Associate Degree Program at Elgin Community College. The research purpose of this applied research paper is to identify a comprehensive community risk reduction model that can be integrated into Elgin Community College's Fire Science and Safety Associate Degree curriculum.

The descriptive research methodology was selected to guide the research questions developed for this applied research paper. Research techniques utilized to gather data include: interviews, questionnaires, and observation research tools.

The research questions used to guide this study were: (a) What are the community risk reduction model components that should be included in the Elgin Community College Fire Science and Safety Associate Degree curriculum; (b) What are the comprehensive community risk reduction models used by agencies within the Elgin Community District 509; (c) How do other community colleges with Fire Science Associate Degree programs, structure community risk reduction models to best integrate with curriculum; (d) What community risk reduction models would meet the Elgin Community College curriculum requirements?

### **Background and Significance**

#### **Background**

Elgin Community College is a Class I, two year institution serving the residents of Community College District 509; which is spread over five counties in northern Illinois (Elgin Community College, 2014, p. 2). Elgin Community College District 509 is geographically located due west of the City of Chicago, in the Fox River Valley (Elgin Community College website, 2014). Elgin Community College District 509 spans some 360 square miles (Elgin Community College website, 2014) (Appendix A). Community College District 509 includes parts or all of 21 rural and urban municipalities (Elgin Community College website, 2014). Communities included in this study are identified in Appendix B. Elgin Community College was founded in 1949 and has grown to an enrollment of over 18,000 students in 2013 (Elgin Community College website, 2014).

Elgin Community College District 509 has one central campus located in the City of Elgin (Elgin Community College website, 2014). One of 39 community college districts within the state of Illinois, Elgin Community College is accredited by the Higher Learning Commission



and a member of the North Central Association of Colleges and Schools (Elgin Community College website, 2014).

Fire departments within the State of Illinois are organized into mutual aid divisions, known as the Mutual Aid Box Alarm System (Mutual Aid Box Alarm System Illinois, 2014). Mutual Aid Box Alarm System Division II encompasses fire departments operating within Elgin Community College District 509, with the exception of St. Charles Fire Department and Hanover Park Fire Department (Mutual Aid Box Alarm System Illinois, 2014). Additionally, the Huntley Fire Protection District and the Hoffman Estates Fire Department are members of Mutual Aid Box Alarm System Division II, but do not serve municipalities identified as incorporated into Elgin Community College District 509 (Elgin Community College website, 2014). Collectively, this study included 16 fire departments and 20 municipal governments as shown in Appendix C.

Mutual Aid Box Alarm System Division II and Elgin Community College have enjoyed a long and healthy relationship over the years. Elgin Community College is represented at the monthly Mutual Aid Box Alarm System Division II Fire Chief's meeting and on the Training and Education subcommittee. Additionally, several of the Mutual Aid Box Alarm System Division II Fire Chiefs serve on the Elgin Community College Fire Science and Safety Program Advisory Board.

Elgin Community College provides training and education programs to the fire service through an array of courses, certificate programs, and an Associate Degree of Applied Science in Fire Science and Safety (Elgin Community College, 2014, p. 30). Additionally, Elgin Community College works collaboratively with Advocate Sherman Hospital to provide college credited Emergency Medical Technician Basic and Paramedic level training and certification (Elgin Community College, 2014, p. 31).

Elgin Community College will open a new regional public safety training facility in 2015 to better meet the training and education needs of the fire service (Elgin Community College website, 2014). The regional public safety training facility will leverage the resources of the community college and incorporate contemporary educational methodologies within a sustainable model to provide an enhanced professional development model for the local fire service.

### **Significance**

The costs of maintaining a traditional reactionary response, within a silo type context, to disasters and emergency events are significant, and may not be sustainable. The costs of unwanted fire alone equaled 329 billion dollars in 2011 (Hall, 2014, table 5). The cost of local fire protection is believed to equaled 42.3 billion dollars in 2011 (Hall, 2014, p. iv). Several studies and standards support the need for adequate staffing in order to maintain the essential reactionary component of the public safety context (National Fire Protection Association, 2010), (Averill, Barowy, & Peacock, 2010).

Community colleges and municipalities alike have sought out innovative and collaborative methodologies to meet the mandated mission in the current adverse economic conditions. As the number of career firefighters continues to grow, primarily in urban areas, the demand for training and education will increase (Bureau of Labor Statistics, 2014). The number of career firefighters is expected to be impacted by the aging population. The number of career firefighter is expected to grow by 7%t between 2012 and 2022, partly due to an aging population (Bureau of Labor Statistics, 2014). The elderly population relies more heavily on emergency services more so than other age groups (Bureau of Labor Statistics, 2014).

The Chicago metropolitan area has the highest employment level in the country for firefighters (Bureau of Labor Statistics, 2014). Even with a high employment level some local fire departments have been are operating with less than adequate staffing (Wilson, 2013). The occupation of firefighter is a dangerous one. There were 81 on the job firefighter deaths in 2012 (United States Fire Administration and The National Fallen Firefighters Foundation, 2013, p. 3).

Community colleges are one of the primary providers for firefighter credentialing (American Association of Community Colleges, 2006). Community colleges face some of the same economic challenges a municipalities, with respect to the current economic conditions (Mullin & Phillipe, 2013). However, community colleges may be ideally suited to provide the necessary training and education in comprehensive multi-hazard community risk reduction. Community colleges are composed of students and employees from the communities they serve. Many community colleges already offer training and education in those ancillary disciplines necessary for the fire service to engage in comprehensive community multi-hazard community risk reduction. Additionally, community colleges provide an academic environment which may aid the fire service in developing an awareness based on knowledge that can facilitate adaptive change in the fire service with respect to comprehensive multi-hazard community risk reduction and the transformation to a professional status (American Association of Community Colleges, 2006, p. 4). More specifically, the new regional public safety training center being constructed by Elgin Community College will provide the fire service with an accessible and local physical context in which to explore the philosophies of comprehensive multi-hazard community risk reduction strategies and to meet the academic requirements for degree completion simultaneously.

Therefore, the significance of infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Associate Degree program curriculum at Elgin Community College would be realized in the following ways:

- It is believed that exposure to the comprehensive multi-hazard community risk reduction philosophy will reduce property loss, injury, and death (National Commission on Fire Prevention and Control, 1973, p. 37).
- It is believed that the comprehensive multi-hazard community risk reduction curriculum will enhance the student's abilities to analyze, prevent, reduce and mitigate community risks (United States Fire Administration, 2013b, p. SM 1-3).
- It is believed that all levels of the local fire service will develop an enhanced perspective on how municipal budgeting, fire services, prioritizing risk reduction, economic development, and a desired quality of life are all interrelated within the context of a community (Hack, 2014; Vision 20/20, 2011).
- The community college is ideally suited to deliver comprehensive multi-hazard community risk reduction curriculum. Many community colleges provide: training and certification for emergency responders, provide access to the diverse academic disciplines associated risk reduction philosophies, and provide an environment that is conducive to adaptive change and enlightenment (American Association of Community Colleges, 2006; Elgin Community College, 2014, 2012; Vision 20/20, 2011; Hack, 2014).
- The application of comprehensive multi-hazard community risk reduction strategies will help to reduce the risk of injury and death to firefighters (National Fallen Firefighters Foundation, 2011).

- The implementation of comprehensive multi-hazard community risk reduction curriculum will help guide the fire service in responding to yet another paradigm shift (Wieczorek, 2014; "Changing," 2014; Frazzano & Snyder, 2013; Johnson, 2009).
- An enhanced awareness of the public management and community planning processes by the fire service will be realized (National Commission on Fire Prevention and Control, 1973; Hack, 2014; Vision 20/20, 2011).
- Finally, introduction of the comprehensive multi-hazard community risk reduction curriculum will enhance the professional status of the fire service (National Commission on Fire Prevention and Control, 1973).

The second course of the Executive Fire Officer program is titled Executive Analysis of Community Risk Reduction (National Fire Academy, 2013). The concepts covered in the Executive Analysis of Community Risk Reduction course include: (a) identifying risk, (b) risk reduction intervention design (c), risk intervention evaluation, (c) leading adaptive change, and (d) navigating organizational and community politics (National Fire Academy, 2013, p. vii). The process of identifying a comprehensive multi-hazard community risk reduction model that can be integrated with the Fire Science and Safety Associate Degree curriculum at Elgin Community College can be directly linked with each of the second year Executive Fire Officer Course concepts.

The purpose of this Applied Research Paper is to identify a comprehensive multi-hazard community risk reduction model that can be included in the Fire Science and Safety Associate Degree curriculum is directly linked to the United States Fire Administration, Goal One, "Reduce risk at the local level through prevention and mitigation" (United States Fire

Administration, 2010, p. 13). Additionally, this Applied Research Paper can be directly linked to Goal 3, “Improve the fire and emergency services’ response to and recovery from all hazards” (United States Fire Administration, 2010, P.13).

### **Literature Review**

The literature review for this applied research paper included; accessing the author’s personal reference library, the Elgin Community College Library, other libraries through the inter library loan program at Elgin Community College, the Gail Borden Public Library, searching on-line articles, and the Learning Resource Center at the National Fire Academy through the on-line component and through a site visit in June of 2014. Ample literature was discovered on all aspects of risk reduction, which appears to permeate all aspects of society and contemporary management methodologies. However, it was noted that there was limited literature related to the specific application of comprehensive multi-hazard community risk reduction strategies and the associated academic disciplines, to the fire service, by the community college. DeCarlo (2013), and Harper (1994), noted similar findings with respect to the amount of literature available addressing the community college as a provider of training for the fire service.

### **History**

Comprehensive multi-hazard community risk reduction is a term used to describe a philosophy that loosely encompasses a wide array of concepts which address an “all-hazards” approach based on the needs of the community (Thiel, 2012, p. 26). Many content area experts now believe that the government should apply an all-hazards approach to community safety (Stern, 2012, p. 33). Elements of Emergency Management, Homeland Security, community planning, and traditional fire prevention activities all may fall within the sphere of

comprehensive multi-hazard community risk reduction. Stakeholders and community leaders are challenged with how to clearly define and integrate the role of each discipline in a manner that produces the maximum return on the investment (Stern, 2012, p. 34). Many fire service leaders argue that the role of the fire chief, irrespective of the strategic approach and structure, is to strive for a resilient fire service and community (Stern, 2012, p. 36).

The history of community risk, within the context of the United States, dates back to the initial settlements in North America (Thiel, 2012, p. 4). The effects of unwanted fire were a threat to early North American settlers, in part due the nature of early building construction, and the layout of early settlements (Thiel, 2012, p. 4). Early risk reduction interventions included maintaining an on-hand supply of water and robust fire watches intended to detect unwanted fires early (Ward, 2014, p. 7).

The prevention of unwanted fires has been an aspect of the fire service since its inception. The Great Chicago Fire and the Peshtigo, Wisconsin Fire, both occurring in 1871 signaled a paradigm shift in the fire service (Ward, 2015, p. 8). Communities began to engage in prevention activities through the adoption of fire and building codes (Ward, 2015, p. 8). Communities also recognized the need to maintain adequate fire suppression capabilities through a robust fire fighting force (Ward, 2015, p. 8). The reconstruction of Chicago incorporated improved fire resistant building construction and enhanced fire warning and extinguishment systems (Pampel, 2008, p. 10). Likewise, the Peshtigo Fire spurred change in the form of forest management (Pampel, 2008, p. 11). However, Peshtigo did not enjoy the same outcome as Chicago. Peshtigo was never rebuilt (Pampel, 2008, p. 11). In 1914, the Portland Oregon Fire Department began a home inspection program (Vision 20/20, 2011, p. 20).

The Triangle Shirtwaist Fire of 1911 contributed to another paradigm shift in fire prevention in the United States. Following the deaths of 146 workers, the National Fire Protection Association developed National Fire Protection Association Standard 101 the Life Safety Code (National Fire Protection Association website, 2011). The Life Safety Code focused on the protection of life from the effects of unwanted fires in buildings (National Fire Protection Association, 2005, p. 22).

The problem of unwanted fire was acknowledged as a national issue in 1947, by the President's Conference on Fire Prevention (United States Government, 1947, p. 1). With respect to the risk of unwanted fire, President Harry S. Truman recognized an increase in incidence of unwanted fires starting in 1934 and the need to reduce the associated risk (United States Government, 1947, p. 1). Many of the recommendations in this report center on the importance of fire prevention education, inclusive of school age students, educators, design and planning professionals, and those involved in fire prevention as a profession. The Wing Spread Conference of 1966 once again defined the fire problem in the United States, as a national issue (The Johnson Foundation, 1966). Within the report is an acknowledgement of education as a necessary component of professional development for the fire service (The Johnson Foundation, 1966).

In 1973, *America Burning*, the report of The National Commission on Fire Prevention was published (National Commission on Fire Prevention and Control, 1973). Widely considered the seminal document for fire prevention in the United States, *America Burning* also focused attention on the fire problem as a national issue, while noting that the effects of unwanted fire are felt hardest at the local level and that prevention interventions are best formulated at the local level (National Commission on Fire Prevention and Control, 1973). Likewise, education, the



need for an emphasis on fire prevention, and professional development were noted. The delivery of Emergency Medical Services by the fire service and the importance of planning were also explored.

The events of September 11, 2001 signaled another paradigm shift for the fire service. The scope and role of the fire service in preventing emergency events and protecting the community was greatly expanded (United States Government Accountability Office, 2005, p. 8). Additionally, the creation of the Department of Homeland Security and a focus on preparing for terrorist attacks influenced first responder preparedness (Haddow, Bullock, & Coppola, 2011, p. 13). The United States Fire Administration was charged with most of the preparedness functions of the Federal Emergency Management Agency. These functions were assigned to a newly formed Office of Preparedness (Haddow et al., 2011, p. 15). The events of September 11, 2001 contributed to the expanded power and funding granted to the military and law enforcement in the shift to emergency preparedness (Pampel, 2008, p. 35). With the emphasis on terrorism, the Federal Emergency Management Agency's resources were shifted to support other functions within the Department of Homeland Security (Haddow et al., 2011, p. 17).

The poor response to Hurricane Katrina signaled yet another paradigm shift within emergency services. The focus on terrorism had clearly impacted the ability of national organizations to respond to other hazards (Bullock, Haddow, Coppola, & Yeletaysi, 2009, p. 57). It became apparent that natural events of this type were far more likely to occur than another terrorist event (Bullock, Haddow, Coppola, & Yeletaysi, 2009, p. 57). The events of Hurricane Katrina helped to move emergency services toward an all hazards response capability. The focus shifted to reducing risk faced by all of society.

## **The Fire Service**

Risk reduction and prevention have been a part of the fire service since its inception. From an historical perspective, the fire service has primarily focused on the prevention of unwanted fire rather than a comprehensive multi-hazard community risk reduction approach. The fire service has also engaged in a lead role in emergency management activities (United States Government Accountability Office, 2005, p. 7). However, the degree and level of effectiveness to which risk reduction and prevention strategies have been applied by the fire service in comparison to the investment in reactionary response and suppression capabilities is unequal at best (National Commission on Fire Prevention and Control, 1973, p. 7). In many jurisdictions the organizational structure assigns fire prevention and risk reduction activities to departments outside of the fire service (Vision 20/20, 2011, p. 20). Still, unwanted fires in the United States amount to billions of dollars each year or nearly 2% of the gross domestic product (Vision 20/20, 2011, p. 5).

Contemporary fire service managers have broadened the perspective of risk management and prevention as society has changed. Some fire departments retain the single role status of fire suppression, while others have transitioned into an “all-hazards” philosophy (Thiel, 2012, p. 26). Over time, the focus and methodologies for dealing with disasters, whether man-made or naturally occurring, has changed as the paradigm has shifted. In many cases the changes in risk reduction methodologies were driven by the risks present in the community. The risks found in each community will differ in the type and scope (Jennings, 2012, p. 64). The risk of ship board fires may be high in a community with a port and very minimal in a landlocked community.

In general, the fire service has functioned in a silo with respect to its mission, “fire suppression.” Operating independently within a silo has contributed to the perception that the fire

service does not work well with others (Daniels, 2012, p. 204). The fire service largely undertook the necessary functions to meet its mission independently and in an unchanged methodology (Matarese, 2013). However, significant changes have taken place in response to events in the recent past. The contemporary fire service is better trained and educated with respect to past generations. Advances in technology and the professionalization of the fire service, in part through advanced education, have contributed to the ability of the contemporary fire service manager to better analyze data and understand local risk (Jennings, 2012, p. 64).

Traditional fire service risk methodologies focused primarily on the prevention of conflagrations (*Risk management*, 1996, p. 8). These methodologies developed from the insurance industry's focus on property conservation and concentrated on reducing the hazard of fire spreading from one building to another (Jennings, 2012, p. 73). Criteria utilized for traditional risk assignment methodologies included the size and construction of a building and the required fire flow (Jennings, 2012, p. 69). Traditional fire risk methodologies were a one size fits all application.

Traditional risk assessment approaches are of value to the fire service. However, contemporary fire service leaders are expected to apply an in-depth analysis of risk specific to the community which may include traditional methodologies (Jennings, 2012, p. 73). The concern for life safety was not necessarily the primary focus of traditional fire risk assignment methodologies (Jennings, 2012, p. 73). Additionally, the risk of unwanted fire may not be the greatest risk within a community. The application of an "all-hazards" approach by the fire service may reveal diverse risks based on the community characteristics.

Contemporary fire service publications address comprehensive multi-hazard community risk reduction philosophies and traditional risk assignment methodologies. The *Fire Suppression*

*Rating Schedule* contains a methodology that assigns credit for community risk reduction activities (Insurance Services Office, Inc., 2012, p. 52). The *Fire Suppression Rating Schedule* includes credit for personnel training and certifications (Insurance Service Office, 2012, p. 53).

Research has linked adequate firefighter staffing levels to timely and effective fire suppression activities (Averill et al., 2010). The work load on firefighters increases significantly as the staffing decreases (Averill et al., 2010). A decrease in firefighter staffing has been linked with a reduction in efficiency and an increase in firefighter workload (Averill et al., 2010). Decreased efficiency has been associated with increased risk to firefighters and contributes to the intensity and growth of fire (Averill et al., 2010). Increased stress on firefighters could lead to an associated higher level of risk, with respect to injury. Addressing occupational risk associated with fire department operations is outlined in *NFPA 1500, Fire Department Occupational Safety and Health Programs* (National Fire Protection Association, 2012).

Other contemporary fire service consensus documents provide recommendations for fire department staffing and resource deployment. The National Fire Protection Association, *Standard 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the public by Career Fire Departments* (2010), provides a risk management model in the Appendix. The Standard and Appendix included content which identifies adequate response capabilities based on the specific risks within the community (National Fire Protection Association, 2010).

Economic conditions associated with the great recession have placed significant pressure on the fire service and, in some cases, resulted in the reduction of funding and resources for fire departments (Cobb & Waters, 2010). Many fire departments are operating below ideal staffing numbers (Wilson, 2013). Fire departments have been tasked with providing the same level of

emergency response with stagnate or reduced resources. Some have questioned the ability of a largely unchanged fire service to continue operating within its current structure (Matarese, 2013). Still, others question if the country's first responders are adequately staffed and equipped to respond to routine emergency events (Perrow, 2007, p. 4 and p. 98).

Many argue that the fire service must embrace innovation and collaboration in order to survive (Bruegman, 2014, & Matarese, 2013). Matarese (2013) argues that other than busy urban fire departments, the current fire service work schedule leads to inefficiencies and low productivity. The International City/County Managers Association has long advocated for new and innovative approaches to providing fire protection (Matarese, 2013). Included in these philosophies is an emphasis on collaboration and the exploration of the public safety officer concept.

The International City/County Managers Association maintains that only a few large urban fire departments are truly engaged in productive activity under the current fire service structure and mission, including those fire departments that have taken on the role of providing Emergency Medical Services (Matarese, Chelst, Straub, & Forezzi, 2008). In fact, the International City/County Managers Association has advocated for performance indicators that reflect relevant data (Matarese et al., 2008). As the role of the fire service continues to evolve, the concept of an "all-hazards" community risk reduction approach has emerged as an innovative method to consider and adopt ("Becoming a Community," 2011).

### **Community Risk Reduction**

The citizenry expects that the fire service will engage in the prevention of, protection from, response to, and recovery from all types of anticipated emergency events (United States Government Accountability Office, 2005, p. 7). Comprehensive multi-hazard community risk

reduction is an innovative methodology which emphasizes a more focused effort to reduce risk within the community in a broader context (Vision 20/20, 2011, p. 19). That is, focusing risk reduction at the community or firehouse level where the impact of incidents is felt the most, and where prevention interventions can make the greatest difference. That is not to say that risk within a community does not have a national context. The value of comprehensive community multi-hazard risk reduction is the flexibility to focus on risk within a specific community and allocate resources at the local level to achieve efficiency and maximum return on investment.

The ultimate goal of comprehensive community risk reduction is to change long term behaviors and attitudes (Vision 20/20, 2011, p. 10). Comprehensive multi-hazard community risk reduction is a philosophy that incorporates the analysis of community data to guide the development and application of specific risk reduction interventions at the fire station, or community level (Vision 20/20, n.d.).

Vision 20/20 provides a systematic, six step process for risk reduction: (a) identify the risks, (b) prioritize the risks, (c) develop strategies and tactics to mitigate the risks, (d) prepare the community risk reduction plan, (e) implement the community risk reduction plan, (f) monitor, evaluate, and modify the plan as needed (Vision 20/20, n.d.). The community risk reduction process was originally developed for use in reducing the risk of fire. However, the systematic process can be applied to virtually all risks within the community (Vision 20/20, 2011, p. 3). Consideration should be given to a wide array of risks as the systematic six step method can be applied to reduce non-fire related risk such as accidental injury and death within the community (Jennings, 2012, p. 71).

The comprehensive community risk reduction philosophy focuses on community risk assessment at the fire station level where risk reduction has the greatest impact (Vision 20/20,

2011, p. 8). Methods utilized to identify community risk include: data analysis, community engagement, and as a last resort driving around the community or “windshield” surveys (Vision 20/20, 2011, p. 8). The assessment of risk and the collection of data may be impacted by cultural barriers. These barriers should be anticipated and acknowledged (Vision 20/20, 2011, p. 8). Diversity in the fire service is one element of reaching at risk populations in the community. Fire departments that do not reflect the community they serve in the context of cultural diversity are at greater risk ("Fire Department Diversity," 2013, para. 1). In fact, a recent study showed that the lack of diversity and cultural competency in the fire service creates an impediment to providing quality fire prevention and public safety information (Fire 20/20, 2007).

In some cases, multiple risks will be identified while adequate resources are not available to address each of the risks. Therefore, it is necessary to prioritize risk reduction interventions by analyzing the degree of impact and the use of resources to help determine priorities as it may be beneficial to first address those risks that require the least amount of resources (Vision 20/20, 2011, p. 8).

Developing strategies and tactics is the third step in the process. It may not be necessary to develop new risk reduction strategies as there may be strategies and tactics in the program that already exist (Vision 20/20, 2011, p. 8). Next the community risk reduction plan is developed. The plan should have a manager, be manageable, and be realistic (Vision 20/20, 2011, p. 9). Step five of the process is the application step. The application step focus on exercising the risk reduction plan within the targeted area and population (Vision 20/20, 2011, p.9) Step six involves monitoring, evaluating, and modifying the community risk reduction plan based on performance data and results achieved (Vision 20/20, 2011, p. 9).

Vision 20/20 identifies the 5 “Es” of fire prevention intervention strategies. Education is focused on prevention education and is intended to encourage low risk behavior (Vision 20/20, n.d.). The goal of fire prevention education is to change a behavior (North American Coalition for Fire and Life Safety Education, 1999, p. 16). Enforcement refers to the enactment, adoption, and enforcement of codes, standards, and ordinances that by their development are designed to reduce community risk (Vision 20/20, n.d.). Engineering is the focus of activities on altering the environment for the purpose of reducing community risk (Vision 20/20, n.d.). Economic incentives center on economic motivators intended to encourage behaviors that reduce community risk and deter behaviors that increase community risk (Vision 20/20, n.d.). Finally, emergency response is the action of mitigating or reducing loss once an unwanted event has occurred (Vision 20/20, n.d.). Emergency response is by its nature reactionary.

A comprehensive multi-hazard community risk reduction model embraces an environment of collaboration with the citizenry, other government departments, and community organizations (Vision 20/20, 2011, p. 19). Comprehensive community risk reduction is a proactive philosophy which is intended to be a sustainable process (Vision 20/20, 2011, p. 19). The fire department’s mission statement and/or strategic plan may reflect the community risk reduction philosophy. Building relationships with the community you serve through diversity, building cultural knowledge, and engaging the citizenry in their spoken language creates an environment of trust which ultimately leads to reduced community risk ("Fire Department Diversity," 2013, para. 1). Collaboration and partnership are hallmarks of the comprehensive multi-hazard community risk reduction philosophy.

The comprehensive multi-hazard community risk reduction philosophy is not intended to replace emergency response capabilities. Rather the strategies are intended to be applied



collectively. Community risk reduction strategies and prevention interventions and emergency response operations are intended to complement and enhance each other respectively (United States Fire Administration, 2013a, p. 6). Likewise, risk prevention and risk migration are applied collectively (United States Fire Administration, 2013, p. SM 1-11).

Community risk reduction will look different at each fire station, as the risk reduction actions being implemented are reflective of the risks identified at the community or fire station level (Vision 20/20, 2011, p. 21). That is, risk is not distributed evenly between communities (Pampel, 2008, p. 6). The application of a one size fits all risk reduction/prevention philosophy may not be the best investment of resources as it lacks risk reduction effectiveness, and is not a sustainable process (United States Fire Administration, 2013a, p. 4). Risk reduction activities can be very effective when designed to reduce a targeted risk at the root cause. (United States Fire Administration, 2013a, p. 4).

The fire service is ideally suited to engage in comprehensive multi-hazard community risk reduction planning. Most firefighters are committed to and ideally suited for risk reduction and prevention duties (Crawford, 2012, p. 168). Firefighters are expected to have experience with unwanted fires. There is inherent value in the firefighters' ability to relate experiences with unwanted fires in the appropriate context for the purpose of changing attitudes and behaviors towards fire prevention and risk reduction philosophies (Crawford, 2012, p. 168). In fact, many contemporary fire service managers are evaluating the use of front line operational personnel in the role of a comprehensive multi-hazard community risk reduction program ("Becoming a Community," 2011, para. 2). This staffing methodology has been used to great success in several other countries (Crawford, 2012, p. 174). Staffing methodologies vary significantly across the country (Crawford, 2012, p. 181). However, regardless of the staffing methodologies utilized to

reduce community risk, the quality of the training fire service personnel receive will significantly influence the effectiveness of fire prevention and risk reduction activities (Crawford, 2012, p. 182).

There are many benefits for the fire service from the application of comprehensive multi-hazard community risk reduction philosophies. The reduction of emergency responses, incidents of less severity, and a decrease in high risk calls are all benefits the fire service realizes from the application of the comprehensive community risk reduction philosophy (United States Fire Administration, 2013, p. 8). Seventy-nine percent of fire deaths occur in residential occupancies (United States Fire Administration, 2013a, p. 47). Community risk reduction should focus on local data. That is, the risk of fire in residential occupancies may not be the focus in a specific community regardless of national data. The National Fire Incident Reporting System may provide one aspect of the specific local data necessary to evaluate community risk (United States Fire Administration, 2013a, p. 48). Utilizing National Fire Incident Reporting System data as it relates to census tracts would be one element to achieve clarity with respect to risk at the fire station or community level.

Demographics, in many cases, drive the need for emergency service and can reflect risk exposure (Thiel, 2012, p. 9). The demographics continue to be in a state of flux in the United States (Thiel, 2012, p. 9). The increase in population usually drives an associated increase in the demand for emergency services. However, the demographic makeup of a community also influences the type and level of risk found within a community (Thiel, 2012, p. 10). It is widely accepted that certain populations are at greater risk of experiencing an unwanted emergency event. Unwanted emergency events are not limited to fire and may include disease, or accidental injury, or death.

High-risk populations include: children age 5 and under, impoverished households, older adults age 65 and over, people affected by disabilities, and populations who speak little or no English (United States Fire Administration, 2013, p. 59). The poor are at a greater risk of exposure to an emergency event. In large part the poor are at greater risk because they lack the resources to take preventative action (Perrow, 2007, p. 31). Changing behaviors is the goal of a comprehensive multi-hazard community risk reduction philosophy (United States Fire Administration, 2013, p. 64). Issues that complicate the process of changing attitudes and behaviors include: social, cultural, economic, and environmental (United States Fire Administration, 2013, p. 64). In fact, Perrow (2007) argues that we as a society are to blame for most of the risk we face because of our conscious decisions and personal attitudes towards risk (p. 39).

### **Municipal Governments and Risk**

Government bodies have focused on planning and developing communities since the initial settlement of Europeans in North America (Birch, 2009, p. 3). Most government bodies undertake community planning for the purpose of developing a desirable place to live (Birch, 2009, p. 23). Government bodies and planners are focused on developing safe communities that are adequately constructed and prepared to respond to hazards (Birch, 2009, p. 24). Birch (2009) argues that communities should be designed with the ability to serve vulnerable populations, in a cost effective manner (p. 24). The fire service is ideally suited to participate in or lead the local planning process (National Commission on Fire Prevention and Control, 1973, p. 24).

Society expects that all levels of government will work collaboratively to prepare communities and their citizens for the hazards they face (United States Government Accountability Office, 2010, p. 7). All levels of government share in the responsibility of

developing and implementing an “all-hazards” preparedness approach (United States Government Accountability Office, 2010, p. 7). In response to the shared responsibilities all levels of government have developed methods of preparedness that address community risk throughout the stages of an event (Schneider, 1995, p. 5). That is, the application of the comprehensive community risk reduction may be of value to governments at all levels and at each stage of an event. Contemporary culture within the United States reflects an expectation that governments at all levels will engage in preparedness and response to hazard. These expectations are founded in the belief that the various levels of government are best suited to engage in prevention, response, and recovery operations (Schneider, 1995, p. 5). There have been times when governments at all levels have failed to meet the expectations of an affected citizenry (Schneider, 1995, p. 6). Schneider (1995) argues that the failure to meet the expectations of an affected population is most commonly caused by an organizational philosophy that is not reflective of the needs of the affected citizenry (p. 6). Local level governments and especially community level first responders have taken on the responsibility for initial response to emergency events (Schneider, 1995, p.19). First responders from within the community, have for the most part, been able to provide an initial respond to emergency events in an expedient and efficient manner (World Health Organization, 1999, p. 10). Schneider (1995) maintains that risk response activity is best suited to “bubble up from the bottom” (p. 7). That is, risk is generally reflective of the community. Therefore, local first responders are ideally suited to engage in preparedness through the application of risk assessment and reduction. In many cases the greatest value in risk reduction will be realized at the local level. The citizenry have an expectation that all levels of government are engaged in preparedness. However, the local first responders and

governments may have the greatest initial impact in risk reduction and response. That is not to say that some risk does not have a national context.

Shaw (2012) defines community as the citizenry, local government, local businesses, and other non- governmental institutions (p. 3). As public policy makers, scholars and practitioners continue to study and develop risk reduction philosophies, the emphasis has increasingly focused on identifying and reducing risk at the community level (Shaw, 2012, p. 3). Shaw (2012) argues that; local government entities are better suited to identify, analyze, and reduce risk (p.4). There is significant value in allocating resources to help local governments reduce risk (Shaw, 2012, p. 4). In order to realize the maximum benefit of risk reduction activities, community groups and government departments must work across traditional barriers in a collaborative fashion (Shaw, 2012, p. 5). Comprehensive community risk reduction is not a standalone philosophy intended for application by a single government department. Rather, the community risk reduction philosophy should be infused into all aspects of a community (Shaw, 2012, p.4). Government planners and leaders should guard against risk transfer instead of risk reduction (Shaw, 2012, p. 3). Shaw (2013) maintains that risk reduction should be an aspect of the local strategic planning process (p.3).

Planning is an effective way of reducing risk. The fire service should lead, or at least participate in, community planning and preparedness activities (United States Fire Administration, 2013a, p. 48). Engaging in the community planning processes results in many benefits to the community and the fire service through the realization of reduced inherent risks in the community (National Commission on Fire Prevention and Control, 1973, p. 24). Strategic planning is one methodology utilized by contemporary public sector managers to plan for all operational aspects of a community (Gordon, 2005, p. 1). Strategic planning provides the

methodology for allocating resources and for measuring results through the use of goals and objectives (Government Accounting Office, 2004, p. 5).

Luthy (2002) argues that engaging in the strategic planning process is one of the most important activities of the contemporary public sector leader and manager (p. 1). Jennings (2012) argues that; “The strategic plan is the tangible outcome of the risk management process” (p.89). The frame work of the strategic plan provides an organization with the platform to communicate what it is, what it does and, most importantly, how it provides a guide for decision making (Sturgis, 2008, p. 571). The strategic planning process identifies the current environment and status of the organization and a vision for the path forward (Smeby, 2014, p. 165). The strategic planning process assists the organization in prioritizing actions and allocating resources (Sturgis, 2008, p. 581). A well written strategic plan helps to communicate the risks faced by the community and the needs of the organization to respond to those risks (Sturgis, 2008, p. 581). The strategic planning process is by its nature inclusive of all stakeholders. When applied to the budgeting process the strategic plan helps to guide expenditures (Sturgis, 2008, p. 581). That is, budget requests not directly linked to strategic objectives or initiatives should be closely scrutinized prior to fiscal resource allocation. Collectively the strategic plan and the budget help to identify adequate funding levels for risk reduction interventions (Jennings, 2012, p. 89). The strategic plan may also be a valuable tool in risk reduction prioritization. The strategic plan may be used to evaluate the required level of resources allocation and potential value to the community as they relate to strategic initiatives or objectives (Bunch, 2013, p. 256). The strategic planning process was also determined to bring value to the regional homeland security planning process (United States Government Accountability Office, 2004, p. 4).

Likewise, the strategic planning process is designed to be a collaborative process which engages all stakeholders (Jennings, 2012, p. 90). The fire service should play a role in the environmental scan component of the strategic planning process. The environmental scan will reflect the finding of the community risk assessment (Jennings, 2012, p. 90). The environmental scan and community risk assessment will provide valuable information utilized in the development of strategic objectives specific to public safety and risk reduction. The strategic plan can identify the ability of the fire service to meet its mandated mission (Jennings, 2012, p. 90). Finally, the strategic plan provides a vision or path moving forward on the methods to reduce community risk and enhance response capabilities within the scope of available resources.

Community vitality is greatly enhanced through the identification and reduction of risk within the community (United States Fire Administration, 2013a, p. 6). The United States Fire Administration (2013a) states that those engaged in community risk assessment and reduction should consider that following risk categories: (a) risk of unwanted fire, (b) reduction in preventable injuries, (c) terrorism risk, (d) natural hazards, (e) social crisis risk, and (f) environmental hazards (p. 6). Pampel (2008) also argues that local governments are best suited to identify risk, develop risk reduction strategies, and to apply risk reduction strategies (Pampel, 2008, p. 65). Pampel (2008) also concludes that local governments have the most to lose, thus providing a significant motivation to engage in the comprehensive community risk reduction philosophy (p. 65). Comprehensive multi-hazard community risk reduction philosophies help to improve the quality of life in the community (United States Fire Administration, 2013a, p. 8).

Contemporary public management practices and philosophies include a focus on enhancing community resilience (Coaffee, Wood, & Rogers, 2009, p. 1). Coaffee et al. (2009)

define the community resilience as a holistic methodology, combining proactive and reactive activities and flexibility into a focused and deliberate response to community risk (Coaffee et al., 2009, p. 110). The local planning process in the United Kingdom now routinely includes the identification and analysis of risk at the community level (Coaffee et al., 2009, p. 196). The contemporary national response to risk in the United Kingdom has been to encourage the application of community resilience methodologies and risk reduction strategies at the community level (Coaffee et al., 2009, p. 230). Additionally, stakeholders are encouraged to view and apply risk reduction concepts at the personal level as well. That is, stakeholders need to take personal responsibility for decisions and risk reduction within their personal lives.

The Federal Emergency Management Agency's mitigation philosophy encourages those affected by a disaster to rebuild in a manner that enhances the community's resistance to another event (Pampel, 2008, p. 77). Godschalk (as cited in Coaffee et al., 2009, p.63) argues that a collaborative effort amongst all stakeholders, including: community planners, emergency managers, and engineers, is necessary to weave community resilience into the fabric of the community and to realize the full value of the community risk reduction philosophy. Pampel (2008) argues that community preparedness should be led by local governments (p. 63). Those local governments that employ a professional staff trained in emergency management philosophies are generally better equipped to facilitate collaboration across inter-departmental cooperation and community barriers (Pampel, 2008, p. 64).

The New Public Service philosophy of government management and leadership is built on an emphasis of stakeholder collaboration. Professional and flexible public servants share leadership responsibilities with stakeholders and facilitate the blending of public, non-profit, and private entities for the purpose of responding to and meeting the community needs (Denhardt &



Denhardt, 2011, table 1). The New Public Service philosophy employs a values based leadership approach in which inclusion and collaboration are stressed (Denhardt & Denhardt, 2011, p. 44).

The New Public Service signals a significant paradigm shift in public administration philosophies, in that the responsibility for meeting the needs of the community and improving the quality of life are shared between the citizenry and public servants (Denhardt & Denhardt, 2011, p. 118).

### **Community Policing**

Community oriented policing is a risk reduction philosophy that focuses on more efficient ways to provide public safety services and on improving the quality of life within communities (Bureau of Justice Assistance, 1994, p. 1). Like comprehensive multi-hazard community risk reduction, community policing is a focused on responding to specific needs of a community or neighborhood (Bureau of Justice Assistance, 1994, p. 1). Developed in response to a paradigm shift in the application of law enforcement, community policing seeks inclusion of all stakeholders while applying the concepts of total quality management (Bureau of Justice Assistance, 1994, p. 11). The emphasis on community engagement is stressed throughout the community policing philosophy. Performance indicators are linked with values and behaviors (Bureau of Justice Assistance, 1994, p. 25). Like comprehensive multi-hazard community risk reduction, adaptive cultural change presents a challenge for law enforcement managers (Bureau of Justice Assistance, 1994, p. 34). At the center of community policing philosophy is building trust with the citizenry through engagement, behaviors, and service. The Bureau of Justice Statistics (1994) identifies three desired outcomes through the application of the community policing philosophy: (a) the reduction of community crime, (b) an increase in the quality of life within the community, and (c) to enhance the levels of service to the community (p. 45).

**National Fire Academy**

The National Fire Academy is a leader in fire service education and professional development. The Fire and Emergency Services Higher Education curriculum was developed by the United States Fire Administration to provide standard higher education curriculum for the fire service (Federal Emergency Management Agency, n.d., p. 3). Additionally, the Fire and Emergency Services Higher Education curriculum was expanded to include a concentration in fire prevention (Federal Emergency Management Agency, n.d., p. 4). The Fire and Emergency Services Higher Education curriculum includes a focus on firefighter safety through a partnership with the National Fallen Firefighters Foundation (Federal Emergency Management Agency, n.d., p. 8).

**Community Colleges**

Community colleges, the oldest being founded in 1901 in Joliet, IL, have also been concerned with the well being of the communities they serve for many years (Phillippee & Patton, 2000, p. 17). By their very design, community colleges are composed of the community they serve (American Association of Community Colleges, 2006, p. 1). Many community colleges have expanded beyond their original mission to offer a wide breath of educational disciplines (Phillippee & Patton, 2000, p. 20). Community colleges make up the largest sector in higher education and account for the greatest number of student enrollments (American Association of Community Colleges, 2006, p. v). Almost half of all undergraduate students in the United States are enrolled in community colleges (American Association of Community Colleges, 2006, p. v). In fact, the National Center for Education Statistics (as cited in American Association of Community Colleges, 2006) reports that 86% of firefighters obtained their credentials from a community college.

The history of the community college system, like that of the fire service, is reflective of the many paradigm shifts it has confronted. In response to the shifting needs of the community several actions were taken at the national level to enhance access to higher education. The National Defense Education Act of 1958 signaled the focus on education in the race to space (American Association of Community Colleges, 2012, p. 5). The Higher Education Facilities Act of 1963 was intended to support higher college enrollment and increase the number of community colleges in America (American Association of Community Colleges, 2012, p. 5). The Higher Education Act of 1965 took further action to enhance access to higher education (American Association of Community Colleges, 2012, p. 5). The establishment of Pell Grants in 1972 by President Nixon provided funding assistance for those seeking a higher education (American Association of Community Colleges, 2012, p. 5).

Likewise the events of September 11, 2001 and the response to Hurricane Katrina influenced curriculum and instructional methodologies at community colleges (American Association of Community Colleges, 2006, p. vii). The events of September 11, 2001 brought the need for homeland security training and education to the attention of society and community colleges (American Association of Community Colleges, 2006, p. vii). Although many community colleges were providing homeland security training by the time Hurricane Katrina struck the Gulf Coast in 2005, the need for an “all-hazards” approach to training of first responders was evident in the scope of the failed response to this event (American Association of Community Colleges, 2006, p. vii). That is, the need for training first responders indicated a balanced curriculum that included disaster preparedness and response that encompassed both man-made and naturally occurring disasters (American Association of Community Colleges, 2006, p. vii). Community colleges did in fact respond to these training needs at the local level,

providing training that encompassed both hazards as relative to the local level (American Association of Community Colleges, 2006, p. vii). Community colleges provide a valuable link between the national and local contexts. Community colleges were providing training to first responders prior to the events of 2001 and 2005. Therefore, community colleges were ideally suited to deliver specialized training to first responders at the local level, while maintaining an awareness and dialogue at the local level (American Association of Community Colleges, 2006, p. 6). Many community colleges have integrated homeland security and risk reduction into curriculum and operational practices (American Association of Community Colleges, 2006, p. 11)

Today community colleges, like the fire service, find themselves facing yet another paradigm shift. The American Association of Community Colleges has published, *Reclaiming the American Dream; Community Colleges and the Nation's Future*, a reflective and analytical document which engages in the discussion of how the community college must change to meet the needs of the community and to meet its mission of access to an affordable and quality higher education. Included within this initial report are many recommendations for changing institutional characteristics. Among the recommendations for change in institutional character are:

- From a culture of isolation to a culture of collaboration.
- From a focus on teaching to a focus on learning
- From individual faculty prerogative to collective responsibility for student success.
- From fragmented course-taking to clear, coherent education pathways (American Association of Community Colleges, 2012, p. ix).

Community colleges serve as the keystone in our local communities. That is, community colleges are involved in almost all aspects of the community they serve. The community college

is a place where all segments and functions of the community come together. Many community colleges play a role in vital community activities such as: (a) community economic development, (b) community planning, (c) disaster relief activities, (d) emergency preparedness, and (e) in providing social services (American Association of Community Colleges, 2006, p. 2).

Community college facilities are not only used for education and training, but also play a role in community preparedness and disaster response (American Association of Community Colleges, 2006, p. 5). The use of community college facilities in times of emergency range from environmental sheltering centers during periods of extreme weather, to emergency command centers (American Association of Community Colleges, 2006, p. 5). Additionally, many community colleges possess advanced communication capabilities which serve the community in terms of training, education, and community preparedness (American Association of Community Colleges, 2006, p. 6).

However, community colleges may also find themselves identified as an element of community risk. Risk is reflective of the local community. Developing trends in random mass casualty violence at educational institutions indicate an increasing risk for community colleges, the communities they reside in and the communities they serve. Additionally, certain educational disciplines may, as the cornerstone of their curriculum, utilize hazardous substances and engage in practices which include risk. Of significant concern for those engaged in community risk reduction is the sheer number of people concentrated in one location in a relatively open setting. These along with a myriad of other risk factors associated with the operations of community colleges may pose an increased risk.

Community colleges are the vehicle utilized by many low and middle income citizens to pursue their dreams (American Association of Community Colleges, 2012, p. 1). That is,

community colleges are used by many to move from one socioeconomic class to another. Today American children born into poverty are at a higher risk of remaining impoverished than in all other previous generations (American Association of Community Colleges, 2012, p. 3). The pursuit of higher education for many minority and first generation college students originates at the local community college (American Association of Community Colleges, 2012, p. 14). Community colleges are composed of the communities they serve and, as such, the student demographics are reflective of the community (American Association of Community Colleges, 2006, p. 1). This may provide a significant opportunity for those engaged in community risk reduction to reach at risk populations in an environment that is relaxed and conducive to learning and adaptive change processes.

There is a well established link between the well being of a community and access to an affordable and quality higher education (American Association of Community Colleges, 2012, p. 5). In spite of these links and other well established data pointing to the value of the community college, securing adequate funding continues to be a challenge for community colleges and their leaders (American Association of Community Colleges, 2012, p. 12). Community colleges share this challenge with the fire service and in many cases seek, compete for, and depend on the same state and federal funding sources to meet their mandated missions (American Association of Community Colleges, 2012, p. 12). The realities of limited resources and multiple needs are reflected in the dwindling financial support provided to community colleges (American Association of Community Colleges, 2012, p. 12). In many cases local governments, first responders, and community colleges have identified areas where collaboration and community engagement can enhance emergency preparedness and reduce risk within the community in a cost effective manner (American Association of Community Colleges, 2006, p. 6). Many

community colleges collaborate with local governments and the community to provide cost effective training for first responders (American Association of Community Colleges, 2006, p. 3).

Community colleges have revised the content of curriculum and educational methodologies to focus on an all hazards approach in response to a shifting paradigm with respect to disaster preparedness and training of first responders (American Association of Community Colleges, 2006, p. 1). Contemporary educational philosophies now encourage and value the infusion of cultural awareness competencies into the curriculum offered at community colleges (American Association of Community Colleges, 2006, figure 6). An enhanced perspective of cultures is an essential element of understanding and reducing risk within the community. Similar to the fire service, many community colleges are involved with the community planning process. This involvement provides a unique opportunity for the fire service, the community college, and the local government to collaborate and apply their collective expertise in responding to community risk (American Association of Community Colleges, 2006, p. 3).

Additionally, the expanded role of the community college, with respect to general education and higher learning, is an essential component of preparing the fire service to think critically, and act professionally. Expanded knowledge of public administration and business administration methodologies would enhance the fire service's abilities to analyze data, think critically, and to prepare comprehensive multi-hazard community risk reduction plans (Vision 20/20, 2011, p. 20). Vision 20/20 (2011) argues that the importance of public administration and business administration higher education is not reflected in required firefighter skills sets Vision 20/20, 2011, p. 20). The need and value of higher education for the fire service has been

identified by multiple reports as an important element of the fire service professional development process (Federal Emergency Management Agency, n.d., p. 2). Many community colleges offer educational tracks in business administration and public administration disciplines (American Association of Community Colleges website, 2014).

Additionally, community colleges provide an opportunity for members of the fire service, other emergency responders, and the community to develop a deeper understanding of contemporary leadership philosophies and methodologies, as well as the change management process (American Association of Community Colleges website, 2014). Changing attitudes, values and behaviors in response to a new reality is considered adaptive change (Heifetz & Linsky, 2002, p. 13). The International Public Safety Leadership and Ethics Institute offers a humanities based ethical leadership curriculum (2013). Offered at community colleges and other institutions, the curriculum includes reading of such ethics classics as *The Allegory of the Cave* by Plato. The academic setting provides the opportunity to engage in cultural literacy (Hirsch, 1987).

Community colleges provide a safe and neutral environment in which all stakeholders can participate in the discussion of risk relative to and at the community level (American Association of Community Colleges, 2006, p. 4). Community colleges have long been involved in community engagement. By their very nature and structure community colleges are composed of the citizenry from within the community.

### **Elgin Community College**

Elgin Community College is located some forty miles west of the city of Chicago, in the Fox River Valley. Elgin Community College operates in accordance with the rules and regulation of the Illinois Community College Board and the Illinois Board of Higher Education



(Elgin Community College, 2014, p. 2). Elgin Community College is one of 49 community college districts within the State of Illinois (Illinois Community College Board, 2010). Elgin Community College is the 6<sup>th</sup> largest community college district in the State of Illinois.

The Elgin Community College strategic plan identifies its mission as; “The mission of Elgin Community College is to improve people’s lives through learning” (Elgin Community College, 2012 b, p. 2). The vision of Elgin Community College is:

We pursue our mission by focusing all our efforts on making Elgin Community College one of the best centers of learning in the United States. In recognition of our role as a comprehensive community college, we will strive to create high-quality learning opportunities that respond to the needs of the residents of our district (ECC, 2012 b, p. 3).

The shared values, which reflect core principles and beliefs that guide the institution include; (a) Excellence, (b) Freedom of Inquiry, (c) Equity, (d) Ethical Practices, (e) Accountability, (f) Respect for Diversity, and (f) Community Engagement (Elgin Community College, 2012, p. 3). Freedom inquiry fosters a spirit of discovery and investigation, allowing all to express their thoughts on new and emerging concepts (Elgin Community College, 2012 b, p. 3). Community engagement acknowledges that Elgin Community College is a part of the community and is committed to the well being of the community (Elgin Community College, 2012 b, p. 3). Respect for diversity reflects the equal value, perspective, and strength that all community members add to the college (Elgin Community College, 2012 b, p. 3).

Elgin Community College identifies the following strategic goals which fall within this context of this Applied Research Paper: Goal 3 states;” Promote a climate of collaboration, equity, and inclusion among all college constituencies” (Elgin Community College, 2012 b, p. 11). An atmosphere of inclusion helps to develop cultural competence, enhance decision making processes and associated desired outcomes, promotes interaction between people of different backgrounds and cultures, and enhances opportunity. Goal 5 states: “Strengthen educational and

workforce partnerships to create a more responsive and sustainable community” (Elgin Community College, 2012 b, p. 15). This strategic goal acknowledges the need to revise and introduce curriculum that reflects the needs of the community, develop relationships with community leaders, and enhance communication methodologies with all community stakeholders.

Elgin Community college is an Achieving the Dream Institution (2012). Achieving the Dream is a non-profit organization that advocates for student success through evidence based institutional improvement at the national level (2012). Nearly half of all undergraduate students are enrolled in community colleges (Achieving the Dream, 2012). However, the success rate of those enrolled in community colleges is less than half of those who seek higher education at community colleges (Achieving the Dream, 2012). The Achieving the Dream network of participating colleges exceeds 200 (Achieving the Dream, 2012). The impact of improved student success rates is felt in many ways as evidenced by flourishing communities (Achieving the Dream, 2012).

### **Fire Science and Safety Department**

The Fire Science and Safety Department at Elgin Community College is charged with the delivery of fire service professional development. The department consists of one Instructional Coordinator/Director and sixteen adjunct faculty members. The Fire Science and Safety Department is supervised by an Associate Dean and Divisional Dean. The Fire Science and Safety program is guided by an advisory board composed of local fire chiefs, senior faculty, representatives of local hospitals, private fire protection contractors, and community representatives. The Fire Science and Safety Advisory Board provides advice on program direction, content, and structure.

Training and education of local practitioners is an essential component of successful community risk reduction (Prizzia, 2008, p. 530). The fire service professional development model at Elgin Community College includes both credit and non-credit training and education methodologies. Included within the credit aspect of the fire service professional development model is an Associate Degree in Fire Science and Safety (Appendix D), as well as certificates in Basic Vocational Specialist in Fire Science (Appendix E), Vocational Specialist in Fire Science and Safety (Appendix F), Basic Vocational Specialist in Fire Officer I (Appendix G), and Basic Vocational Specialist in EMS (Appendix H) (Elgin Community College, 2014, p. 50).

The selection process for assigning faculty to courses is governed by the collective bargaining agreement and outside certification organizations. The core of the fire service professional development model at Elgin Community College is built on the Office of the Illinois State Fire Marshal's Office certification course objectives. Faculty members maintain contractually secured academic freedom to meet learning objectives.

Quality training for personnel involved in prevention and risk reduction tasks will influence performance (Crawford, 2012, p. 182). The National Fire Protection Association also provides professional qualification standards for those personnel engaged in prevention and risk reduction activities (Crawford, 2012, p. 182). The National Fire Protection Association (2009) publishes *NFPA 1035, Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist*, a consensus document which identifies professional qualifications for those engaged in public life safety education. The standard identifies required knowledge, skills, and abilities for each level of certification (National Fire Protection Association, 2009). *NFPA 1031, Standard for Professional Qualifications for Fire Inspectors and Plans Examiner*, is another consensus

standard published by the National Fire Protection Association (2013) establishes the professional skill set for fire inspectors and plans examiners (National Fire Protection Association, 2013).

In summary the literature review provided extensive information that was utilized to guide the research. The research tools were designed based on the information found in the literature review.

### **Procedures**

The procedures utilized by the researcher to answer the research questions included; interviews with subject matter experts, two questionnaires, and observations of current conditions. The objective of conducting this research was to identify a comprehensive multi-hazard community risk reduction model that can be integrated into the Fire Science and Safety program curriculum at Elgin Community College.

### **Interviews**

The first set of interviews was conducted with Elgin Community College, Fire Science and Safety Associate Degree program faculty members. The population was determined to be the 16 faculty members assigned to the Fire Science and Safety Associate Degree program for the spring 2014 semester. Because the population is composed 16 faculty members, the entire population was selected as the sample to be interviewed. The rationale for selecting the faculty members is that they are content area experts within the context of fire service operations, professional development in the fire service, and in the specific course they are qualified for and assigned to teach. Faculty members are credentialed through the Office of the Illinois State Fire Marshal and degreed through various institutions. Additionally, faculty members are active practitioners, most with fire departments located within Elgin Community College District 509.

The interview procedure was selected for two reasons. First the interview research procedure was selected to provide maximum opportunity for exchange of information. Second, the use of an electronic questionnaire could be considered a method of faculty evaluation. The collective bargaining agreement and college administrative procedures provide guidelines for faculty evaluation. For this reason, specific faculty member credentials, tenure and degree status are not reported in this research report. However, the time of the interview and the individual's familiarity with and status with respect to the Executive Fire Officer Program were recorded. The length of the interview was recorded in part to validate the value of the chosen research procedure in terms of data collection and capturing the individual's feelings and opinions.

The interviews were conducted in person in the author's office located on the Elgin Community College campus. The interviews were conducted utilizing a research tool developed from the content of the literature review and composed of ten questions to guide the conversation and collect data (Appendix I). The questions were reviewed by a group of three individuals, who were not included in the population of this study, for the purpose of establishing validity. Each individual possessed a background in public safety and higher education at the community college level. Finally, each member of the group possessed at least a Bachelor Degree, with two holding graduate degrees. Each faculty member was asked the same series of questions developed to determine which components of a comprehensive multi-hazard community risk reduction model should be included in the Fire Science and Safety Program curriculum at Elgin Community College.

The first question was developed to gauge the faculty member's level of familiarity with the comprehensive multi-hazard community risk reduction philosophy. The second question asked faculty members to identify the most important risk category that is covered in the Fire

Science and Safety Associate degree program. Next, a question was developed to determine if the faculty member supported the infusion of a comprehensive multi-hazard community risk reduction model into the Fire Science and Safety Associate degree curriculum at Elgin Community College. The fourth question was developed to identify which elements of the Five “Es”, if any, should be included into a comprehensive multi-hazard community risk reduction model that is considered for infusion into the Fire Science and Safety Associate degree curriculum. The fifth question was designed to determine if the faculty supported the infusion of a comprehensive multi-hazard community risk reduction model that included an emphasis on the relationship between risk reduction/prevention activities and emergency response operations. The sixth question was developed to determine if the faculty member supported the infusion of a comprehensive multi-hazard community risk reduction model into the Fire Science and Safety Associate degree curriculum that included a review of the strategic planning process.

The seventh question was designed to determine if the faculty believed that the Fire Science and Safety Associate degree curriculum should include a comprehensive multi-hazard community risk reduction model that included community risk analysis based on data. Question eight asked the faculty member to identify the anticipated value of infusing a comprehensive multi-hazard community risk reduction model into the Fire Science and Safety Associate degree curriculum. Additionally, the faculty members were asked if the benefits of a comprehensive community risk reduction model should be included in the Fire Science and Safety Associate degree curriculum. Next, a question was developed to determine if the faculty believed the Fire and Emergency Service Higher Education Curriculum would be a component of infusing a comprehensive multi-hazard community risk reduction model into the Fire Science and Safety Associate degree curriculum. Finally, an open ended question was asked regarding the infusion

of a comprehensive multi-hazard community risk reduction model into the Fire Science and Safety Associate degree curriculum.

Next, research was conducted to determine the risk reduction methodologies utilized by municipal entities within the boundaries of Elgin Community College District 509. Interviews were conducted with municipal leaders representing communities within the boundaries of Elgin Community College District 509. The population of municipal leaders was determined to be 20. Because the population was limited to 20, the entire population was selected as the sample to be interviewed so that data and feedback could be collected from each community. Additionally, the size of the population is small. Municipal government websites were reviewed to identify the targeted municipal government leader. Municipal government leader was identified as the manager, administrator, or president. An e-mail was distributed to each of the municipal leaders requesting an interview to discuss the concept of comprehensive multi-hazard community risk reduction (Appendix J). Efforts to ensure maximum participation included two follow-up phone calls to those individuals identified as municipal managers or administrators to request an interview (Appendix K).

The rationale for selecting municipal leaders is to ensure that data was collected from all stakeholders. The design and layout of municipal governments within Elgin Community College District 509 varies with respect to the provision of fire and emergency services. That is, some municipal governments do not directly provide fire protection. In some cases, fire protection districts provide services to multiple municipal governments within a geographic area. In these cases the fire protection district is a separate taxing body. Conducting interviews with municipal government leaders ensured engagement of each municipal government in the scope of the research. Additionally, municipal leaders are content area experts in public administration

methodologies and philosophies. Municipal leaders compose a key stakeholder group concerned with and driving risk reduction, and improving the quality of life within the communities they represent. Municipal leaders are the end users of the finished product of the Fire Science and Safety program. Finally, municipal leaders are aware of the risk reduction methodologies underway within their community and the skills necessary to contribute to those processes.

The interview research procedure was selected to record the individual's thoughts and reasoning with respect to comprehensive multi-hazard community risk reduction. Once again, the interview research procedure was selected because of the value of face-to-face interviews adds to the data collection process. The interview procedure provides a greater opportunity for the individual to express feelings and opinions with respect to comprehensive multi-hazard community risk reduction methodologies. Data was collected regarding the individual's education and time of public service to help establish the individual as a content area expert. Next, the time of the interview was recorded to establish the value of the interview research methodology. Finally, the individual's familiarity and status with respect to the Executive Fire Officer Program was recorded. In an attempted to make participation in the interview convenient and to achieve the highest level of participation the interviews were conducted at the office of the participant.

A research tool of nine questions was developed based on the literature review. The research tool was utilized to guide the interview process and collect the desired data. Each of the municipal leaders was provided with a copy of the research tool when the interview date was confirmed. Each municipal leader was asked the same series of questions to gauge the risk reduction methodologies utilized by the municipality they represent and to determine their perceptions and opinions of comprehensive multi-hazard community risk reduction (Appendix



L). The questions were reviewed by a group of three individuals, who were not included in the population of this study, for the purpose of establishing validity. Each individual possessed a background in public safety and higher education at the community college level. Finally, each member of the group possessed at least a Bachelor Degree, with two holding graduate degrees.

The first question was developed to determine if the municipality engaged in comprehensive multi-hazard community risk reduction program. The second question was developed to help determine which risk reduction categories the municipality was actively engaged in. Next, a question was developed to determine what staffing methodologies were being utilized by the municipality to conducted risk reduction methodologies. The fourth question was developed to collect data specific to the fire service participation in the strategic planning process. The fifth question was developed to determine if the municipality utilized the strategic planning process as an element of their comprehensive multi-hazard community risk reduction model. Next, a question was asked to determine if the municipality included the Five “Es” as an element of their comprehensive multi-hazard community risk reduction model. The seventh question was asked to determine if the municipality utilized local data to guide risk reduction activities as an element of their comprehensive multi-hazard community risk reduction model. Next, a question was developed to collect data on skills required to engage in comprehensive multi-hazard community risk reduction application for the purpose of inclusion into the Fire Science and Safety Associate degree curriculum. Finally, a question was asked to collect data on the value of the municipality’s comprehensive multi-hazard community risk reduction model.

## Questionnaires

The first questionnaire involved conducting additional research to determine risk reduction methodologies utilized by municipal governments within the boundaries of Elgin Community College District 509. The population identified to be included in this questionnaire includes the fire departments and fire protection districts that serve communities with Elgin Community College District 509 and members of Mutual Aid Box Alarm System Division II. The population determined to be 16. Because the population size is small, the sample size was determined to be the entire population.

The rationale for selecting the fire chiefs representing the fire service within Elgin Community College District 509 for this population is that they are content area experts with respect to fire service operations, the risks within the communities they represent, and the methodologies utilized to reduce those risks. Selecting fire chiefs as a research population for this work reflects the direct links between the fire service and the community college fire science program. The fire departments, through fire service personnel, are the primary users of the fire service professional development model at Elgin Community College. Finally, the rationale for selecting this population is consistent with the previous work completed with this population. In the author's 2013 applied research paper, *Fire Service Professional Development and the Community College*, DeCarlo maintained that fire chiefs representing the fire service within Elgin Community College District 509 are the core user group of the fire service professional development model at Elgin Community College District (p. 34). Furthermore, DeCarlo (2013, p.34) maintained that the fire chiefs identified in this population have a significant amount of influence on the fire service professional development model at Elgin Community College.

Three of the fire chiefs included in the population, are faculty members with the Fire Science and Safety Program at Elgin Community College.

Utilizing an existing e-mail address data base, the survey was distributed to each participant via e-mail (Appendix M). The e-mail included: a statement of confidentiality, directions on how to complete the questionnaire, a link to the questionnaire, a description of the question content, and an offer to share the completed applied research paper. The questionnaire was developed utilizing Survey Monkey, an online survey service (Appendix N). The questionnaire was available for 14 days. After seven days a follow-up e-mail was sent to participants to again request participation in the questionnaire. The questionnaire was designed based on the literature review conducted for this work. The questionnaire asked a total of 12 questions. The first 10 questions were designed to collect data regarding the comprehensive multi-hazard community risk reduction model utilized by the fire department that the participant represented. The last two questions were developed to collect data on the participant's education level and familiarity with and status in regards to the Executive Fire Officer Program. Collecting data on the educational level and Executive Fire Officer Status of participants supports the individual's status as content area experts with respect to this work. The questions were reviewed by a group of three individuals, who were not included in the population of this study, for the purpose of establishing validity. Each individual possessed a background in public safety and higher education at the community college level. Finally, each member of the group possessed at least a Bachelor Degree, with two holding graduate degrees.

The first question was designed to evaluate how familiar the participant was with the comprehensive multi-hazard community risk reduction philosophy. The second question was designed to collect data on which risk categorizes were addressed within the comprehensive

multi-hazard community risk reduction model utilized by the fire service organization that the participant represents. Next, a question was developed to determine if data driven risk reduction was as element of the comprehensive multi-hazard community risk reduction model utilized by the fire service organization that the participant represents. The fourth question was developed to collect data on the staffing methodologies chosen to implement the comprehensive multi-hazard community risk reduction model utilized by the fire service organization that the participant represents.

The fifth question was designed to determine which of the Five “Es” were included in the comprehensive multi-hazard community risk reduction model utilized by the fire service organization that the participant represents. Next, a question was developed to collect data on community engagement and collaboration within the comprehensive multi-hazard community risk reduction model utilized by the fire service organization that the participant represents. Question seven was designed to collect data on skills required to engage in comprehensive multi-hazard community risk reduction and that may be considered for inclusion into the Fire Science and Safety Associate degree curriculum. Next, a question was asked to determine if the strategic planning process is an element of the comprehensive multi-hazard community risk reduction model. Question nine was developed to determine if the comprehensive multi-hazard community risk reduction model included a specific strategic initiative. Question ten was designed to collect data on the value of the fire department’s comprehensive multi-hazard community risk reduction model. Question eleven addressed the familiarity and status of the participant with respect to the Executive Fire Officer Program. Finally, question twelve collected data with respect to the participant’s educational status.

Next, research was conducted to identify how other community colleges, with fire science programs, structure community risk reduction models to best integrate with curriculum. The rationale for selecting other community colleges for this population was to develop a better understanding of what elements of the comprehensive multi-hazard community risk reduction philosophy other community colleges, at the local, regional, and national levels, are including in their fire science curriculum and to identify best practices.

Because of the number of community colleges which offer Fire Science Associate degree curriculum across the United States, a methodology was developed to identify populations at the local, regional, and national levels to participate in the questionnaire. The local community college sample population is shown in Appendix O. In continuing previous work with the local population of community colleges providing Fire Science Associate Degree curriculum DeCarlo (2013) writes:

A methodology was established to identify a population of and select a sample of Chicago area community colleges offering a fire science curriculum. In this case, the population was identified as all community colleges categorized as being within the Chicago area by the Illinois Board of Higher Education (2012) and providing fire service curriculum. The website for each community college was initially analyzed to determine if the institution provided a fire science curriculum. The population was determined to be 12 community colleges. Because the population was a manageable number and data was desired from all the Chicago area community colleges offering a fire science curriculum, the entire population was selected. The rationale for selecting this population was that these colleges provide fire service curriculum within the local area. Therefore, many or all of the standards affecting these programs are the same as those affecting Elgin Community College. Additionally, the environment in which the institutions operate is similar in terms of fire service structure (p. 37-38).

Next, a methodology was established to define and establish a regional community college population. The population identified for regional community college was community colleges identified by the Illinois Community College Board (2010) outside of the Chicago area community colleges and that provided a fire science curriculum. The rationale for selecting this population was similar to that of selecting the local community college population. However, it was recognized that the environment regional community colleges operate in may differ from Elgin Community College. The population for regional community colleges was determined to be 12 (Appendix P). Because of the size of the population and the desire to collect data from each of the regional community colleges the entire population was selected as the sample population.

Finally, a methodology was established to define and identify a population of national community colleges to participate in the questionnaire. Once again, the author utilizes an aspect of a methodology developed in a previous work to define and identify the national population.

DeCarlo (2013) writes:

Due to the number of community colleges which offer fire service curriculum throughout the United States, methodology was developed for identifying a population and selecting a sample which was manageable. First, the Achieving the Dream web-site was utilized to identify community colleges which participate in the Achieving the Dream Initiative and provide fire service curriculum (p. 36).

An analysis of each community colleges listed on the Achieving the Dream website, including active and non-active colleges, revealed a population of 99 community colleges that participated in the Achieving the Dream Initiative and offered a Fire Science Associate Degree curriculum (Achieving the Dream, 2014). The population of 99 community colleges were listed alphabetically and assigned a numeric value beginning with the number one. The Executive Development course manual was referenced to determine the sample size (Federal Emergency

Management Agency, 2010, p. 37). The sample size was determined to be 80 colleges (Federal Emergency Management Agency, 2010, p. 37). A simple random sample was selected utilizing the simple random-number table methodology (Appendix Q) (Brase & Brase, 2012, p. 14).

The website of each community college identified in the sample population was researched to identify a person who was in a leadership role and an e-mail address for that individual. The rationale for selecting an individual in the leadership role was that person would have the widest breadth of knowledge pertaining to the elements of community risk reduction with the program curriculum. The questionnaire was distributed by email (Appendix R). The e-mail included: a statement of confidentiality, directions on how to complete the questionnaire, a link to the questionnaire, a description of the question content, and an offer to share the completed applied research paper. The questionnaire was developed utilizing Survey Monkey, an online survey service. The questionnaire was available for 14 days. After seven days a follow-up e-mail was distributed to the sample population to once again request participation with the questionnaire.

The questionnaire was designed based on the literature review conducted for this work (Appendix S). Similar to the first questionnaire, this questionnaire asked a total of 12 questions, with the first 10 questions focusing on comprehensive community risk reduction methodologies and the last two questions focusing on the participant's qualifications and the Executive Fire Officer Program. The questions were reviewed by a group of three individuals, who were not included in the population of this study, for the purpose of establishing validity. Each individual possessed a background in public safety and higher education at the community college level. Finally, each member of the group possessed at least a Bachelor Degree, with two holding graduate degrees.

The first question was designed to identify the most important risk category included in the Fire Science Associate degree curriculum. The second question asked the participant to identify their level of familiarity with the comprehensive multi-hazard community risk reduction methodologies. Next, a question was designed to collect data on the risk categories included in the Fire Science Associate degree curriculum. Question four was developed to determine which of the Five “E’s” was included in the Fire Science Associate degree curriculum. Question five was designed to determine if the concept of data driven risk reduction was a component of the community risk reduction curriculum included in the Fire Science Associate degree curriculum. Next, a question regarding degree and certification offerings and the use of the Fire and Emergency Service Higher Education Curriculum was asked. Question seven was developed to determine if the Fire Science Associate degree curriculum included an emphasis on the relationship between risk reduction and prevention activities and emergency response operations. Question eight was developed to collect data on the inclusion of the strategic planning process within the Fire Science Associate degree curriculum. Question nine was developed to once again gauge the presence of data driven risk reduction and prevention activities within the Fire Science Associate degree curriculum. Question ten was designed to collect data on the value of including comprehensive multi-hazard community risk reduction into the Fire Science Associate degree curriculum. Next, question 11 was designed to collect data on the participant’s familiarity with and status regarding the Executive Fire Officer Program. Finally, the last question was designed to collect information on the participant’s educational status.

### **Observation**

Finally, research was conducted to identify community risk reduction models that would meet the curriculum requirements for the Fire Science and Safety Program at Elgin Community



College. To facilitate this research the observation procedure was selected. The observation of learning outcomes and Office of the State Fire Marshal mandated learning objectives was identified as the most appropriate procedure to identify areas where the comprehensive multi-hazard community risk reduction models could be infused into the curriculum. Faculty members enjoy contractually secured academic freedom rights with respect to meeting course learning outcomes. Other research procedures considered for this research may have been considered infringement on faculty academic freedom rights. Additionally, all curriculum changes are subject to a process defined with Elgin Community College procedures and Illinois Community College Board procedures.

A research tool was developed from the literature review conducted for this work. Fire Science and Safety Associate degree course learning outcomes and Office of the State Fire Marshal's Office mandated learning objectives were observed. Opportunities were identified where the infusion of comprehensive multi-hazard community risk reduction practices may be infused into the curriculum (Appendix T).

### **Limitations**

The size of the identified populations, with respect to the municipal governments within Elgin Community College District 509, the number of fire service organizations, and the number of the faculty members within the Fire Science and Safety program are relatively small and pose limitations. Additionally, personal bias may be present in the results of interviews conducted for this work. The position assigned responsibility for community risk reduction was not consistent between municipalities. Therefore, the bias may be present based on the position and perspective of the participant interviewed. In general, the lack of consistent identification of a position responsible for community risk reduction appeared to reflect the diverse communities and

governmental structure found within Elgin Community College District 509. Furthermore, some individuals are present in multiple populations and represent multiple interests within the scope of this work. With respect to the faculty member population, as practitioners, it is assumed they are aware of community risk within their assigned districts. The ability to include additional faculty groups and student populations within Elgin Community College may have added value to this work. However, the six month time frame for completion of this work did not allow adequate time to engage in the institutional approval process for the identification of additional population groups and the distribution of additional questionnaires. Additionally, the ability to release data collected through approved questionnaires, with respect to college academic programs, is governed by institutional research, and not assured. All aspects of the collective bargaining agreement and college procedures were followed in the course of this work and the associated research conducted. Data collection through the use of interviews and questionnaires is reliant upon voluntary participation of the identified populations. Finally, it was assumed that each participant understood the intent of the questions included in interviews and questionnaires.

### **Results**

Data was collected for each of the research questions contained in this applied research paper thru the use of selected research procedures. Research procedures utilized to collect data for this applied research paper included questionnaires, interviews, and an observation tool. Research results for each research question are reported separately in the applicable appendix and in the following section.

The first research question focused on identifying components of a comprehensive multi-hazard risk reduction model that are compatible with the Fire Science and Safety program at Elgin Community College. Interviews were conducted with faculty members assigned to the Fire

Science and Safety program. There were 16 faculty members assigned to the Fire Science and Safety program. Interviews were conducted with 12 Fire Science and Safety Faculty members. This reflects a 75% participation rate of the selected population. The results of this research tool are presented in two ways. First, the familiarity level of the faculty with the comprehensive multi-hazard community risk reduction philosophy is reported. Secondly the faculty member's response regarding the components of a comprehensive multi-hazard community risk reduction model which should be included in the Fire Science and Safety Associate degree curriculum are reported. Each of the interviews conducted produced useable data. With respect to faculty familiarity with the comprehensive multi-hazard community risk reduction philosophy, approximately 79% responded that they were at least familiar with the philosophy. Additionally, approximately 29% of participants responded that they were very familiar with the philosophy. Of those respondents that indicated they were very familiar with the philosophy: three are chief officers, two have achieved Executive Fire Officer Designation, and one completed a college course on the philosophy. Every faculty member interviewed responded that it was important to infuse comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety curriculum. The responses to questions regarding the inclusion of specific elements of a comprehensive multi-hazard community risk reduction model into the Fire Science and Safety Associate degree curriculum reveal faculty support for the following: data driven community level risk reduction activities, a review of the strategic planning process, an emphasis on the correlation between risk reduction and prevention activities and emergency response operations, and the Five "Es". Of note was the response of approximately 21% of participants that Emergency Medical Services courses are the most important concepts taught in the Fire Science and Safety program. One participant identified the value of incorporating multi-hazard

comprehensive community risk reduction philosophies into the Emergency Medical Services curriculum. Likewise, 88% percent of faculty responded favorability to adopting the Fire and Emergency Services Higher Education curriculum. Responses to interview questions revealed a common concern held by the faculty. A comprehensive multi-hazard community risk reduction model infused into the Fire Science and Safety Associate degree curriculum must be flexible. The student population and community make up of Elgin Community College is diverse. A full report of responses is shown in Appendix U.

The second research question explored what community risk reduction methodologies were currently being utilized by local governments. Data to answer this research question was obtained thru the use of two research tools: The first was an interview conducted with municipal. The second was a questionnaire distributed to fire chiefs.

The interviews were conducted with 13 municipal leaders from a population of 20. One municipal leader failed to attend the scheduled interview. This reflects a 60% participation level. All interviews produced useable data. The results of this research tool are reported in two ways. First, the level of education and familiarity with the Executive Fire Officer Program is reported. Next, the general perspective of the municipal leader, with respect to comprehensive multi-hazard community risk reductions models being utilized by the municipality is reported.

The most common level of education among participants was a Master's Degree in Public Administration. More than 66% of respondents had achieved this level of education. With respect to the Executive Fire Officer Program, the interviews revealed four participants were familiar with the program. Of those four, three were or had worked with Executive Fire Officer Candidates within their respective fire departments. The level to which communities engage in community risk reduction was diverse. Each of the participants interviewed acknowledged that

their municipal organization employed a comprehensive multi-hazard community risk reduction model. However, the research revealed that strategies, applications, and focus varied widely among municipalities. The research revealed some municipalities were engaged in comprehensive risk reduction activities within the community. Several common themes were noted among the responses. First, the value of collaboration was noted. Many participants emphasized this point repeatedly throughout the interview. The research also revealed that municipal leaders are facing the ongoing challenge of limited resources to meet mandated missions. Approximately 67% of participants indicated that the fire service organization providing service to the municipal government was involved at some level with the strategic planning process. Each of the participants indicated the fire service organization providing service to the municipal government was responsible for fire risk reduction. Likewise, the police department was responsible for reducing the risk of crime. Responses to other risk reduction activities were less clear and in some cases undetermined. A full report of participant responses is shown in Appendix V.

The questionnaire was distributed to the fire chiefs of 16 fire service organizations within Elgin Community College District 509. A response to the questionnaire was received from 12 of the fire chiefs, for a response rate of 75%. All responses to the questionnaire produced useable data. The full results of this research tool are depicted in Appendix W. The results of this research tool are reported in four ways. First, the level of familiarity with the comprehensive multi-hazard community risk reduction philosophy is reported. Approximately 42% of respondents reported they were very familiar with the comprehensive multi-hazard community risk reduction philosophy. While four respondents indicated they were somewhat familiar with the philosophy. All respondents reported some level of familiarity with the philosophy. Next, the

responses for question 6 and question 7 are shown in Figure 1 and Figure 2, respectively. The mode is reported for each of the remaining questions. The mode refers to the most frequently occurring value (Federal Emergency Management Agency, n.d., p. 44). Approximately 92% of respondents reported the comprehensive multi-hazard community risk reduction model included fire risk reduction. Nearly 59% of respondents indicated that a component of their comprehensive multi-hazard community risk reduction model used municipality specific data to determine risk reduction and prevention activities. Almost 67% of respondents indicated that integrated staffing methodologies were utilized to conduct community risk reduction activities. All of the questionnaire respondents indicated that the risk reduction model utilized by the fire department they represent included the public education risk reduction and prevention. Almost 64% of fire departments represented by questionnaire respondents reported the strategic planning process was an element of the risk reduction model. While more than 81% reported that a strategic initiative specific to public safety was included in the strategic plan.

The most frequently identified benefit of comprehensive multi-hazard community risk reduction model was that it is an integral component of community planning and development. Next, with respect to the Executive Fire Officer Program, nearly 73% of response indicated familiarity with the program. Finally, approximately 45% of respondents indicated they had earned a Bachelor's Degree in Fire Science. The third research question focused on comprehensive multi-hazard community risk reduction philosophies taught at other community colleges. The same questionnaire was utilized to collect data from three population groups. First, the questionnaire was distributed to 12 local community colleges. Responses to the questionnaire totaled eight, for a response rate of roughly 67%. The full results are reported in Appendix X. Next, the questionnaire was distributed to 12 regional community colleges. Responses totaled

two for a response rate of approximately 17%. The full results are reported in Appendix Y.

Finally, the questionnaire was distributed to the sample population of 80 national community colleges. Responses totaled 32, for a response rate of 40%. Full results are reported in Appendix Z. The local and national questionnaires produced useable data. The regional questionnaire produced only two responses with limited data. The regional community college question failed to adequate responses and useable data.

**Q6: Which of the following entities does the fire department you represent collaborate with to accomplish comprehensive multi-hazard community risk reduction?**

Answer Choices	Responses	
Police Department	91.67%	11
Planning/Community Development Department	66.67%	8
Chamber of Commerce	8.33%	1
Building Department	66.67%	8
Public Works Department	58.33%	7
Community Based Groups (Home Owners Associations/Retirement Clubs/Social Clubs)	66.67%	8
Citizens Emergency Response Team/Fire Corps	25.00%	3
School Districts	66.67%	8
Churches	50.00%	6
None, the fire department conducts comprehensive multi-hazard community risk reduction activities independently.	0.00%	0
None, the fire department does not engage in comprehensive community risk reduction activities.	0.00%	0
<b>Total Respondents: 12</b>		

*Figure 1, Organizations fire departments collaborate with to conduct community risk reduction activities. Note: Source: Fire Chief Questionnaire (Appendix X).*

The results from the questionnaire are reported in three ways. First, the most important concept covered in the respondent's fire science program is reported. Local community college respondents were split in their response with three respondents each choosing fire suppression and comprehensive community risk reduction and prevention as the most important concept covered in the fire science program that they represent. Approximately 59% of national

community college respondents selected comprehensive community risk reduction as the most important concept covered in the fire science program that they represent.

**Q7: Which of the following do you believe are essential elements of preparing fire service personnel to engage effectively in comprehensive multi-hazard community risk reduction activities?**

Answer Choices	Responses	
State Fire Marshal Certifications	72.73%	8
College Courses in Risk Reduction Methodologies	72.73%	8
College Courses in Public or Business Administration	27.27%	3
College Courses in Fire Science	63.64%	7
Paramedic Certification	36.36%	4
Training in Fire and Building Code Application	72.73%	8
None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.	0.00%	0
<b>Total Respondents: 11</b>		

*Figure 2. Essential Elements of Preparing Fire Service Personnel to Engage Effectively in Comprehensive Community Risk Reduction Activities. Note: Source: Fire Chief Questionnaire (Appendix X).*

Next, all responses for question 10 are reported for local and national community college respondents in Figure 3, and Figure 4, respectively. Finally, the mode for each question and population is reported. With respect to the level of familiarity with the comprehensive multi-hazard community risk reduction, nearly 62% of local community colleges reported that they are somewhat familiar. Approximately 47% of national community college respondents indicated they were very familiar with the philosophy. With respect to risk categories covered within the fire science curriculum, local community college respondents indicated fire risk and preventable injuries were the most commonly covered risk categories. National community college respondents overwhelming, approximately 81%, indicated fire risk was the most common risk category covered. With respect to the Five “Es”, local community college respondents select



emergency response as the most common intervention covered in the fire science program they represent. National community college respondents were equally split between emergency response and education.

**Q10: Which of the following do you believe are benefits of including comprehensive multi-hazard community risk reduction strategy within the fire science degree program curriculum?**

Answer Choices	Responses	
Reduces the risk of injury, death, and property loss.	100.00%	8
Enhances the quality of life within the community.	50.00%	4
Is a value added service.	75.00%	6
Is an element of community resilience.	37.50%	3
Reduces the risk of firefighter injury and death.	75.00%	6
Is a fiscally responsible strategy.	37.50%	3
Is an integral component of community planning and development.	62.50%	5
Is an effective budgeting tool.	25.00%	2
None, comprehensive multi-hazard community risk reduction philosophies should not be included in the fire science degree curriculum.	0.00%	0
<b>Total Respondents: 8</b>		

*Figure 3. Benefits of Including Comprehensive Multi-Hazard Community Risk Reduction Strategies within the fire science degree curriculum. Note: Source: Local Community College Questionnaire (Appendix Y).*

The research revealed that 75% of local community colleges include data driven community risk reduction element with the Fire Science Associate degree curriculum. Approximately 61% of national community college respondents indicated the Fire Science Associate degree curriculum included traditional development and administration of risk reduction and prevention activities that are delivered community wide. With respect to components of certification, the college degree was the most commonly selected choice with 100% of local community college respondents selecting this category and approximately 94% of national respondents selecting this choice.

**Q10: Which of the following do you believe are benefits of including comprehensive multi-hazard community risk reduction strategy within the fire science degree program curriculum?**

Answer Choices	Responses
Reduces the risk of injury, death, and property loss.	<b>90.63%</b> 29
Enhances the quality of life within the community.	<b>75.00%</b> 24
Is a value added service.	<b>71.88%</b> 23
Is an element of community resilience.	<b>43.75%</b> 14
Reduces the risk of firefighter injury and death.	<b>81.25%</b> 26
Is a fiscally responsible strategy.	<b>68.75%</b> 22
Is an integral component of community planning and development.	<b>75.00%</b> 24
Is an effective budgeting tool.	<b>65.63%</b> 21
None, comprehensive multi-hazard community risk reduction philosophies should not be included in the fire science degree curriculum.	<b>3.13%</b> 1
<b>Total Respondents: 32</b>	

*Figure 4. Benefits of Including Comprehensive Multi-Hazard Community Risk Reduction Strategy Within Fire Science Degree Curriculum. Note: Source: National Community College Questionnaire (Appendix AA).*

Approximately 88% of local respondents and 75% of national respondents indicated the Fire Science Associate degree program they represent emphasizes this relationship between risk reduction and prevention activities and emergency response operations. Approximately 88% of local respondents and almost 68% of national respondents indicated the Fire Science Associate degree curriculum included an overview of the strategic planning process. Regarding community risk analysis based on local community data, approximately 63% of local respondents and just over 59% of national respondents indicated this concept is included in the Fire Science Associate degree curriculum. All local community college respondents and nearly 71% of national community college respondents indicated they are familiar with the Executive Fire Officer Program. Finally, regarding the educational level of respondents, 75% of local community college respondents indicated that they have earned a Bachelor's Degree in Fire Science.

National community college respondents indicated that approximately 32% had earned an Associate Degree in Fire Science.

Finally, the fourth research question utilized an observation tool to identify elements of a comprehensive multi-hazard risk reduction model that are best suited to be infused into the Fire Science program curriculum at Elgin Community College. The research revealed course learning outcomes and required learning objectives provided ample opportunities to infuse elements of comprehensive multi-hazard community risk reduction. Additionally, the research revealed some aspects of the comprehensive multi-hazard community risk reduction philosophy are currently included in the Fire Science and Safety Program curriculum. A full report is provided in Appendix T.

### **Discussion**

The purpose of this applied research paper was to identify the elements of a comprehensive multi-hazard community risk reduction model that could be infused into the Fire Science and Safety Associate Degree curriculum at Elgin Community College. The importance of infusing a comprehensive multi-hazard community risk reduction model into the Fire Science and Safety Associate degree curriculum at Elgin Community College in revealed is several areas of this Applied Research Paper. The research revealed almost unanimous support for comprehensive multi-hazard community risk reduction by: the fire science faculty at Elgin Community College, the local Fire Chiefs, and municipal leaders (Appendix U) (Appendix V) (Appendix W). Additionally, the United States Fire Administration (2013) has invested significant resources into educating the fire service on comprehensive multi-hazard community risk reduction methods. The benefits of fire prevention and community planning in reducing community risk were identified in America Burning (National Commission on Fire Prevention

and Control, 1973). Community colleges are heavily invested into the training of first responders (American Association of Community Colleges, 2006). The National Fallen Firefighters (2011) Foundation supports community risk reduction as a method of reducing risk to firefighters. The International City County Managers have advocated for a greater focus on community risk reduction (Bruegman, 2014) (Wieczorek, 2014). Traditional fire risk evaluation methodologies have included credit for community risk reduction and prevention activities, including training for practitioners, in the latest revision to these tools (Insurance Service Office, 2012). Finally, examples of this philosophy have proven successful in other areas of public safety (Bureau of Justice Assistance, 1994).

The importance of exposing the fire service to a comprehensive multi-hazard community risk reduction model is also reflected in the reality of a new and lasting economic environment that has resulted in the reduction of resources allocated to the fire service (Cobb & Waters, 2010) (Wilson, 2013). This reduction in resources has occurred even as new research has shown the effects of reduced staffing at certain emergency events (Averill et al., 2010). Consensus documents provide prescriptive and performance methods for adequate resource allocation (National Fire Protection Association, 2010). Additionally, a common concern identified by municipal leaders indicated meeting mandated missions with limited resources is an ongoing challenge (Appendix V). These conditions appear to indicate a paradigm shift in local contemporary public management philosophies. The New Public Service philosophy places an emphasis on collaboration between public and private entities with a shared leadership role and responsibility with respect to meeting the community's needs (Denhardt & Denhardt, 2011). Nearly 91% of municipal leaders identified comprehensive multi-hazard community risk reduction as adding to the quality of life in a community (Appendix V). The fire service will be a

central element in this paradigm shift. However, the role the fire service will play in this new environment is less than certain. The ability of the fire service to engage in and collaboratively lead a diverse group of community stakeholders in the application of a comprehensive multi-hazard community risk reduction model within their municipality may help to determine the relevancy of the fire service going forward. Engaging in a comprehensive multi-hazard community risk reduction model may in itself be a paradigm shift for individual fire departments and fire protection districts. Collectively, this would appear to be a significant confluence of events and cultural change the fire service faces.

The literature review and research revealed that comprehensive multi-hazard community risk reduction is a dynamic philosophy shaped by the composition and culture of the community (Appendix V) (Appendix W) (Thiel, 2012, p. 26). Some aspects of this philosophy have been employed by the fire service for years (Thiel, 2012, p. 4). However, the fire service is now exploring some of the many concepts considered to be within the scope of comprehensive multi-hazard community risk reduction (United States Fire Administration, 2013a, p. 6) (Fire 20/20, 2007) (Appendix W) (Appendix X). Equally as dynamic is the method in which the comprehensive multi-hazard community risk reduction philosophy blends with other concepts such as homeland security, emergency preparedness, strategic planning, community planning, and higher education (Stern, 2012, figure 2). There has been significant debate by stakeholders, including members of higher education, on the value of each of these concepts (Stern, 2012, p. 33) (Appendix U) (Appendix X) (Appendix Z).

Responses from Local Fire Chiefs reflect a fire service that is already engaged in comprehensive multi-hazard community risk reduction (Appendix W). All respondents expressed some level of familiarity with the comprehensive multi-hazard community risk

reduction philosophy, with almost 42% indicating they were very familiar. The more significant findings in the questionnaire center on the level of participation in the strategic planning process, the value placed on Fire Marshal Certification and diverse elements utilized in community risk reduction. Nearly 91% of Fire Chiefs indicated that the fire department they represented was involved in a strategic planning process (Appendix W). Almost 82% of respondents indicated that their strategic plan included a strategic initiative specifically addressing public safety. The data appears to reflect the value and high level of participation among the Fire Chiefs in the strategic planning process. There is a perceived value in undertaking additional research to determine the exact level of influence the Fire Chiefs play in the formation of a specific strategic initiative relative to public safety. Likewise, nearly all municipal leaders acknowledged a strategic planning process was an element of their community management (Appendix V). Additionally, nearly 87% of local community colleges and approximately 68% of national community colleges indicated a review of the strategic planning processes was included within the Fire Science Associate degree curriculum. The value of strategic planning as an element of a comprehensive multi-hazard community risk reduction model is reflected in the literature review as well (Luthy, 2002) (Jennings, 2012).

The fire service will need to draw upon a diverse skill set, that including: business and public administration, risk assessment, data analysis, change management/leadership, and community/strategic planning, to fully realize the benefit of implementing a comprehensive multi-hazard community risk reduction model within their respective communities (Vision 20/20, 2011) (Heifetz & Linsky, 2002) (United States Fire Administration, 2013) (International Public Safety Leadership Ethics Institute website, 2013) (Appendix V) (Appendix W). Additionally, as the fire service moves to engage in the varying elements of a comprehensive

multi-hazard community risk reduction model, new metrics will need to be utilized to measure and communicate the value of such work (Hart, 2005) (Endicott, 2012). Traditional metrics utilized by the fire service to primarily measure performance may not be suited to measure the added value realized by the implementation of a comprehensive multi-hazard community risk reduction model (Endicott, 2012) (Appendix U) (Appendix V) (Appendix W) (Appendix X) (Appendix Z).

The literature review revealed that the core of the Fire Science and Safety Associate Degree curriculum is composed of Office of the Illinois State Fire Marshal approved Fire Officer I courses (Appendix D). Research revealed that approximately 73% of local Fire Chiefs indicated that State Fire Marshal Certifications were essential in preparing firefighters to engage effectively in comprehensive multi-hazard community risk reduction activities (Appendix W). Likewise, all local community college respondents indicated that State Fire Marshal Certification was a component of the Fire Science Associate Degree curriculum at the institution they represented. In contrast approximately 22% of national community college respondents indicated that State Fire Marshal Certification was an element of the Fire Science Associate Degree program at the institution they represented (Appendix Z). The results reflect the value the local Fire Chiefs place in State Fire Marshal Certification. An observation of required learning objectives revealed that some elements of a comprehensive multi-hazard community risk reduction model are currently covered in the Fire Science and Safety Associate Degree curriculum (Appendix T). Additionally, the observation revealed further opportunity to infuse elements of the comprehensive multi-hazard community risk reduction model (Appendix T).

Response by municipal leaders continued the trend of broad based support for the Comprehensive multi-hazard community risk reduction philosophy (Appendix V). Research

reveled that the comprehensive multi-hazard community risk reduction models utilized by local municipalities varied in terms of scope, content, and depth (Appendix V). The extent of the differences in models is reflected in the wide range of individuals which were assigned the responsibility of community risk reduction and the staffing methodologies utilized (Appendix V). Likewise, the perceived value of engaging in community risk reduction among municipalities differed (Appendix V). The literature review revealed that the municipalities, fire departments, and fire protection districts within Elgin Community College District 509 differ with respect to size, population served, and structure (Appendix A) (Appendix B) (Appendix C). Several municipalities described well developed, expansive, and evolving comprehensive multi-hazard community risk reduction models within their communities (Appendix V). Similar succinct responses relative to comprehensive multi-hazard community risk reduction models were noted and recorded from Elgin Community College faculty who are Executive Fire Officers or candidates (Appendix U). Further research would be of value to determine the influence of Executive Fire Officers and candidates in the development of comprehensive multi-hazard community risk reduction models within their communities. The results of this research could help to identify Executive Fire Officer and candidates that could help guide the curriculum change process within Fire Science and Safety Associate Degree curriculum at Elgin Community College. It would appear that the value of utilizing Executive Fire Officers as faculty members would add value to the Fire Science and Safety Associate Degree program and provide an opportunity for realizing a maximum return on the investment made into the training of Executive Fire Officer by the United States Fire Administration.

Continuing the trend of broad based support, responses from faculty members indicated they supported for infusing a comprehensive multi-hazard community risk reduction model that



included items identified in the literature review, into the curriculum (Appendix U). The research indicates that the faculty support the infusion of a comprehensive multi-hazard community risk reduction model that includes: the use of community data to develop risk reduction methodologies, inclusion of the Five “Es”, an emphasis on the relationship between risk reduction and prevention activities and emergency response operations, a review of the strategic planning process, and identifying the benefits of engaging in community risk reduction (Appendix U). Additionally, the Fire Science and Safety Associate Degree program faculty appear to embrace the adoption of the Fire and Emergency Services Higher Education curriculum as one method of infusing a comprehensive multi-hazard risk reduction model into the curriculum (Appendix U). However, the results of the interviews did not clearly define a consensus among faculty with respect to where the exact elements should be infused, the priority for element infusion, or at which learning level elements should be infused. The diverse responses of faculty may be reflective of the varying levels of familiarity with the comprehensive multi-hazard community risk reduction methodology expressed by the faculty. The topic of culture change within the fire service was raised in several areas of this Applied Research Paper. The ultimate goal of community risk reduction is to change attitudes and behaviors (Vision 20/20, 2011, p. 10). Likewise, a common thread among faculty responses reflected a concern regarding the current fire service culture or the attitudes of the fire service regarding fire prevention and risk reduction activities (Appendix U). That is, 50% of faculty respondents expressed concern about the attitude of the fire service regarding fire prevention and risk reduction activities (Appendix U). Providing a liberal arts and humanities based ethics and leadership curriculum to the fire service may help to change the culture within the fire service. The International Public Safety Leadership and Ethics Institute and Phi Theta Kappa,

International Honor Society of the Two-Year College, offer a curriculum that includes *The Allegory of the Cave*, by Plato (Phi Theta Kappa, 2008, p. 362).

Diversity, community engagement, and cultural awareness are critical elements of successful implementation of a comprehensive multi-hazard community risk reduction methodology (Fire 20/20, 2007) ("Fire Department Diversity," 2013). The communities that make up Elgin Community College District 509 are diverse (Appendix B). Additionally, Elgin Community College District 509 values include respect for diversity and community engagement as values (Elgin Community College, 2012 b, p. 3). One notable result of the literature review revealed the Fire Science and Safety Advisory Board did not adequately reflect the community and that the Fire Science and Safety Associate degree curriculum lacked components that promoted community engagement and enhanced cultural competency. Furthermore, the literature review and research completed for this Applied Research Paper revealed the critical role collaboration plays in a comprehensive multi-hazard community risk reduction model (Appendix V) (Appendix W) (Thiel, 2012, p. 26) (Daniels, 2012, p. 204) (Matarese, 2013) (Vision 20/20, 2011). Developing a greater sense cultural competence, engaging the community, and practicing inclusion will help to build the collaborative relationships required for successful implementation of a comprehensive multi-hazard community risk reduction program. The research revealed that many of the fire service providers already collaborate with a diverse group of entities in the reduction of risk within the community (Appendix W).

Differences were noted in comprehensive multi-hazard community risk reduction models infused by local and national community colleges (Appendix X) (Appendix Z). The differences were expected based on the literature review conducted. The research confirms that that risk is best identified and addressed at the local level (Vision 20/20, 2011) (United States Fire

Administration, 2013b) (Shaw, 2012). Although a specific comprehensive multi-hazard community risk reduction model was not identified across all community colleges, common elements were consistent with the literature review. Notable differences between local and national community colleges include the importance of comprehensive multi-hazard community risk reduction. Local community colleges split evenly between fire suppression and comprehensive multi-hazard community risk reduction, with nearly 38 % selecting each as the most important concept covered in the Fire Science Associate Degree curriculum (Appendix X). In comparison, nearly 60% of national community colleges indicated comprehensive multi-hazard community risk reduction was the most important concept covered in the Fire Science Associate Degree curriculum (Appendix Z). Another notable difference which may help to explain the perceived difference in importance is the level of familiarity respondents indicated with the comprehensive multi-hazard community risk reduction philosophy. Approximately 47% of national community college respondents indicated they were very familiar with the comprehensive multi-hazard community risk reduction philosophy (Appendix Z). In comparison, only about 13% of local community college respondents indicated the same level of familiarity. With respect to the Fire and Emergency Services Higher Education curriculum 50% on local and national community colleges indicated that the Fire Science Associate Degree curriculum was in line with Fire and Emergency Services Higher Education curriculum.

The community college is ideally suited to facilitate the implementation of a comprehensive multi-hazard community risk reduction and provide much of the expanded education and skills needed by the fire service to engage in community risk reduction (American Association Community College, 2006) (Phillippe & Patton, 2000). Risk is best identified and mitigated at the local level (Vision 20/20, 2011) (United States Fire Administration, 2013b)

(Shaw, 2012). The community college appears to be the point at which all stakeholders, including at risk populations, that are concerned with the well being of the community cross paths; creating an opportunity for dialogue, learning, and enlightenment, with respect to comprehensive multi-hazard community risk reduction. The community college, like the fire service and municipal governments, is experiencing a paradigm shift in terms of the higher education model and the challenge of on campus violence. With change comes opportunity. There is much at stake for each of these organizations and the community in each of the paradigm shifts underway. There appears to be an opportunity and value in all stakeholders engaging within the construct of the community college.

Overall, the research reveals a strong and broad based support for the comprehensive multi-hazard community risk reduction philosophy (Appendix U) (Appendix V) (Appendix W) (Appendix X) (Appendix Z). However, the specific structure, terminology, depth, and complexity of the models utilized are rather diverse (Appendix U) (Appendix V) (Appendix W) (Appendix X) (Appendix Z). Although the literature review and research contributed valuable insight into a comprehensive multi-hazard community risk reduction model that is best suited for infusion into the Fire Science and Safety Associate Degree curriculum it did not identify an all-inclusive list of elements. Several challenges were noted. More work is required to clearly define all elements of a comprehensive multi-hazard community risk reduction model suitable for infusion into the Fire Science and Safety Associate Degree curriculum. The varied composition, structure, and size of municipalities that compose Elgin Community College District 509 and the diverse student population goals within the Fire Science and Safety Associate degree program require a comprehensive multi-hazard community risk reduction model that is flexible, applicable, and progressive in design. The Executive Fire Officers from within local fire

departments who are engaged in the delivery of higher education to the fire service seem to be the most qualified and the most prepared group to lead the additional work. There also appears to be an opportunity for Executive Fire Officers, municipal leaders, and the community, within the construct of the community college, to work across boundaries and engage all stakeholders in the work of more clearly defining a comprehensive multi-hazard community risk reduction model within Elgin Community College District 509.

### **Recommendations**

The research and literature review conducted for this applied research paper were utilized to form the recommendations. The following recommendations are provided to further identify and implement elements of the comprehensive multi-hazard community risk reduction philosophy into the Fire Science and Safety curriculum at Elgin Community College.

It is recommended:

- It is recommended that the Fire Science and Safety Advisory Board and the Fire Science Faculty evaluate the need for working groups assigned to comprehensive multi-hazard community risk reduction for the purpose and feasibility of implementation.
- It is recommended that the Community Risk Reduction methodology published by Vision 20/20 be evaluated by the Fire Science and Safety Advisory Board and the Fire Science and Safety faculty for the purpose and feasibility of implementation.
- It is recommended that the Fire and Emergency Services Higher Education curriculum be evaluated by the Fire Science and Safety Advisory Board and the Fire Science and Safety faculty for the purpose and feasibility of implementation.

- It is recommended that the Fire Science and Safety Advisory Board be expanded to include municipal leaders and community representatives reflective of the citizenry.
- It is recommended that the Fire Science and Safety faculty explore opportunities to collaborate with local fire departments in incorporating elements of community outreach and community engagement into the Fire Science Associate degree curriculum.
- It is recommended that the Fire Science and Safety faculty evaluate the required learning objectives within the Fire Science and Safety Program curriculum for the purpose and feasibility of infusion of a comprehensive multi-hazard community risk reduction model.
- It is recommended that the Instructional Coordinator explore articulation agreements with institutions of higher learning that offer Fire Science and Safety Program graduates the opportunity to engage in the study of public administration and business administration disciplines.
- It is recommended that the Fire Science and Safety Advisory Board and the Fire Science and Safety Program faculty explore the creation of an Associate Degree Program in the Emergency Management discipline for the purpose and feasibility of implementation.
- It is recommended that the Fire Science and Safety Advisory Board and the Fire Science and Safety Program faculty explore non-traditional fire service academic disciplines for the purpose and feasibility of implementing in the general

education requirements of the Fire Science and Safety Associate Degree requirements.

- It is recommended that the feasibility and interest in developing a method for bringing municipal leaders, members of the fire service, the citizenry, and members of higher education that include Fire Science and Safety Associate Degree faculty members together to engage in a conversation relative to the role and benefits community risk reduction be explored.
- It is recommended that a professional development program for Fire Science and Safety faculty members that includes and supports a focus on attending National Fire Academy resident courses relative to course assignments be explored for the purpose and feasibility of implementation.
- It is recommended that the Instructional Coordinator seek collaborative opportunities with other academic departments within Elgin Community College that have high levels of enrollment among the at risk populations for the purpose and feasibility of infusing risk reduction education into the curriculum.

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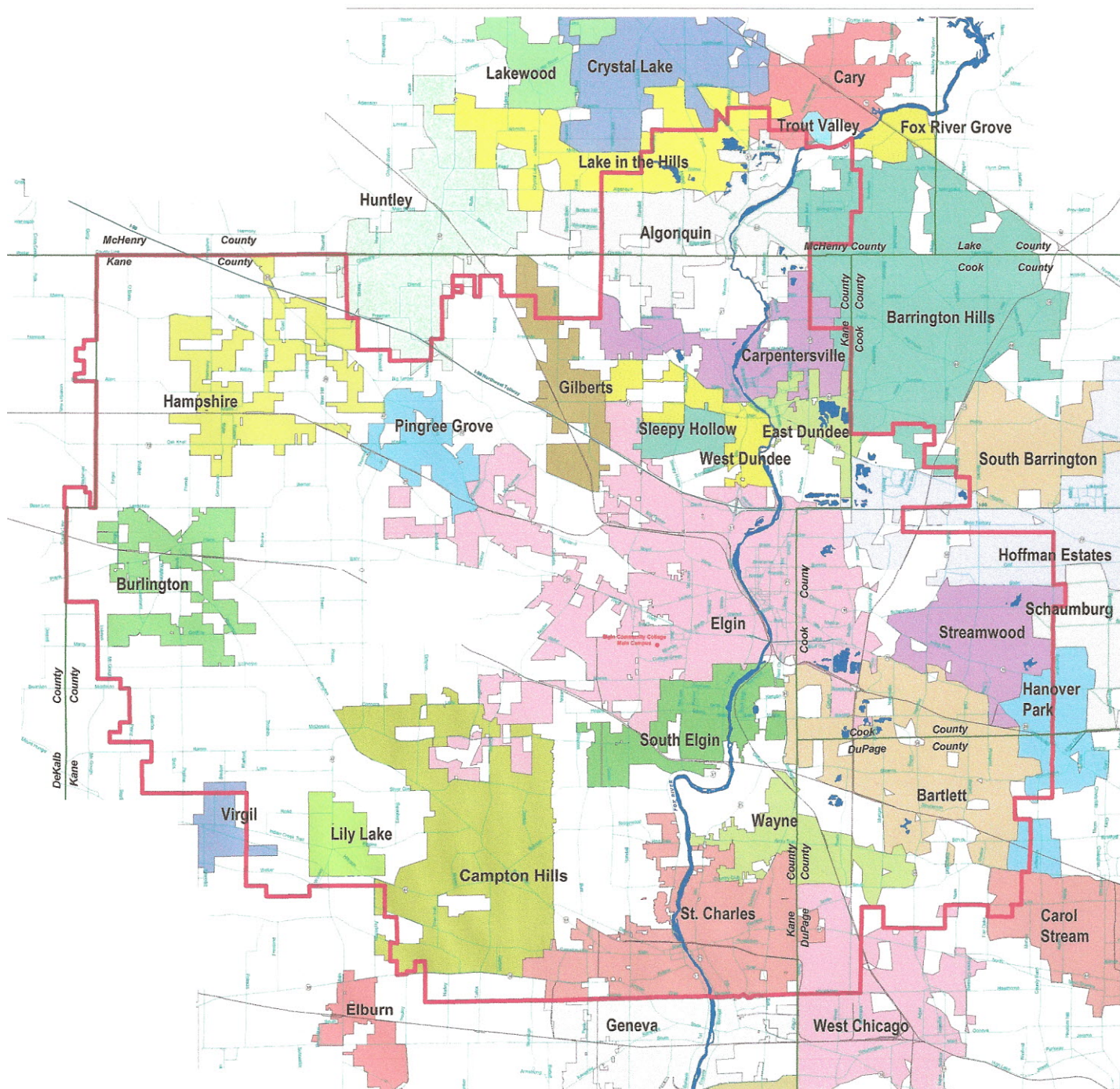
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## Appendix A

## Elgin Community College District 509



*Note.* Source: Elgin Community College website (2014).

**Appendix B****Municipalities and Demographic Data**

<i>Community</i>	<i>Total Population</i>	<i>Living in Poverty</i>	<i>Under 5Years of Age</i>	<i>65 Years of Age or More</i>	<i>Those Who Speak a language other than English at Home</i>	<i>Those with Disabilities</i>
<i>Algonquin</i>	30,046	886	1,970	2,428	1,625	1,670
<i>Bartlett</i>	40,903	2,161	2,796	3,463	1,577	3,551
<i>Burlington</i>	547	38	27	67	22	43
<i>Campton Hills</i>	10,985	410	390	805	816	641
<i>Carpentersville</i>	37,758	6,197	3,536	1,828	17,670	2,228
<i>East Dundee</i>	2,863	185	127	533	313	307
<i>Elgin</i>	109,513	13,959	10,424	9,571	30,030	8,663
<i>Gilberts</i>	6,786	51	730	330	228	170
<i>Hampshire</i>	6,174	89	606	673	866	480
<i>Hanover Park</i>	37,990	4,909	2,967	2,228	10,658	2,489
<i>Hoffman Estates</i>	52,066	2,925	3,054	4,823	10,364	3,313
<i>Lake in the Hills</i>	28,894	1,609	1,793	1,605	4,551	2,087

<i>Lily Lake</i>	1,024	30	58	139	35	126
<i>Pingree Grove</i>	4,425	1,135	607	317	1,639	72
<i>Sleepy Hollow</i>	3,348	179	220	432	322	198
<i>South Elgin</i>	21,873	789	1,693	1,292	3,367	1,451
<i>St. Charles</i>	33,046	1,327	2,017	4,052	4,063	862
<i>Streamwood</i>	40,201	2,196	2,776	3,044	17,156	2,807
<i>Wayne</i>	2,760	33	70	325	142	211
<i>West Dundee</i>	7,307	540	438	658	1,164	407

*Note:* Source: American Fact Finder the US Census Bureau website (2013).

**Appendix C****Fire Departments and Municipal Governments Included in the Study**

Fire Department	Community Served	Fire Stations	Staffing Model	Population Served
Algonquin Lake in the Hills Fire Protection District	Algonquin Lake in the Hills	3	Combination	58,940
Bartlett Fire Protection District	Bartlett	3	Career	40,903
Streamwood Fire Department	Streamwood	3	Career	40,201
Burlington Fire Department	Burlington	1	Paid On Call	547
Hampshire Fire Protection District	Hampshire	1	Combination	6,174
Fox River and Country Side Fire Protection District	Wayne Campton Hills Lily Lake	2	Combination	14,769
Carpentersville Fire Department	Carpentersville	3	Combination	37,758
Pingree Grove Fire Protection District	Pingree Grove	3	Combination	4,425
West Dundee Fire Department	West Dundee	2	Combination	7,307
East Dundee Fire Department	East Dundee	1	Combination	2,863
Elgin Fire Department	Elgin	7	Career	109,513
Hanover Park Fire Protection District	Hanover Park	2	Combination	37,990
Hoffman Estates Fire Department	Hoffman Estates	4	Career	52,066

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Rutland Dundee Fire Protection District	Gilberts Sleepy Hollow	2	Combination	10,134
St, Charles Fire Department	St. Charles	3	Career	33,046
South Elgin Fire Protection District	South Elgin	2	Combination	21,873

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*Note.* Source: Data retrieved from (Mutual Aid Box Alarm System Illinois, n.d.), (Burlington Community Fire Protection District, n.d.), (Algonquin Lake in the Hills Fire Protection District, 2014), (Bartlett Fire Protection District, 2014), (Carpentersville Fire Department, 2012), (East Dundee Fire Protection District, 2011), (Elgin Fire Department, n.d.), (Fox River and Countryside Fire Rescue, 2008), ( Hampshire Fire Protection District, n.d.), (Hoffman Estates Fire Department, 2014), (Pingree Grove and Countryside Fire Protection District, 2008), (South Elgin and Countryside Fire Protection district, n.d.), (St Charles Fire Department, 2014), (Streamwood Fire Department, 2014), (West Dundee Fire Department, n.d.), (United States Census Bureau, 2013).

**Appendix D****Fire Science and Safety Associate Degree Courses**

Associate Degree Courses:

Course Number	Course Name	Credit Hours
FSS 101	Introduction to Fire Science	3
FSS 102	Fire Prevention Principles I	3
FSS 103	Fire Suppression and Building Construction	3
FSS 201	Fire Fighting Tactics and Strategy I	3
FSS 202	Hazardous Materials	3
FSS 203	Fire Service Hydraulics	3
FSS 204	Fire Protection Systems	3
FSS 206	Fire Service Management I	3
FSS 207	Fire Service Management II	3
F22 214	Fire Service Instructor I Basic	3
FSS 215	Emergency Medical Technician Basic	8

*Note:* Source: Elgin Community College Catalog 2014-2015 (Elgin Community College, 2014).



**Appendix E****Basic Vocational Specialist in Fire Science Courses**

Basic Vocational Specialist Courses:

Course Number	Course Name	Credit Hours
FSS 101	Introduction to Fire Science	3
FSS 103	Fire Suppression and Building Construction	3
FSS 204	Fire Protection Systems	3

*Note:* Source: Elgin Community College Catalog 2014-2015 (Elgin Community College, 2014).

**Appendix F****Vocational Specialist in Fire Science and Safety**

Vocational Specialist Courses::

Course Number	Course Name	Credit Hours
FSS 101	Introduction to Fire Science	3
FSS 102	Fire Prevention Principles I	3
FSS 103	Fire Suppression and Building Construction	3
FSS 201	Fire Fighting Tactics and Strategy I	3
FSS 202	Hazardous Materials	3
FSS 203	Fire Service Hydraulics	3
FSS 204	Fire Protection Systems	3
F22 214	Fire Service Instructor I Basic	3
FSS 215	Emergency Medical Technician Basic	8

*Note:* Source: Elgin Community College Catalog 2014-2015 (Elgin Community College, 2014).

**Appendix G****Basic Vocational Specialist in Fire Officer I**

Fire Officer I Courses:

Course Number	Course Name	Credit Hours
FSS 102	Fire Prevention Principles I	3
FSS 201	Fire Fighting Tactics and Strategy I	3
FSS 206	Fire Service Management I	3
FSS 207	Fire Service Management II	3
F22 214	Fire Service Instructor I Basic	3

*Note:* Source: Elgin Community College Catalog 2014-2015 (Elgin Community College, 2014).

**Appendix H****Basic Vocational Specialist in Emergency Medical Services**

EMS Vocational Specialist Courses:

Course Number	Course Name	Credit Hours
FSS 215	Emergency Medical Technician Basic	8

*Note:* Source: Elgin Community College Catalog 2014-2015 (Elgin Community College, 2014).

**Appendix I****Fire Science and Safety Faculty Interview Tool**

Title:	Years of College Service:
Active Practitioner/Title:	Years of Service:
Courses Taught:	Location:
Start:	End:
Date of Interview:	Educational Status:
EFO:	Attended NFA Resident Course:

**Question 1**

How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?

**Question 2**

In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?

**Question 3**

In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?

**Question 4**

Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?

**Question 5**

Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?

**Question 6**

Should the fire science and safety curriculum contain an overview of the strategic planning process?

## Question 7

Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?

## Question 8

What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?

## Question 9

Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?

## Question 10

Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?

**Appendix J****E-mail to Municipal Government Leaders**

To: [Email]

From: cdecarlo@elgin.edu

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Subject: Executive Fire Officer Interview Request

Body: Municipal Administrators

Dear .....,

My name is Carl M. DeCarlo. I serve as the Instructional Coordinator for the Fire Science and Safety Programs at Elgin Community College District 509. I am completing the second year of the Executive Fire Officer Program (EFOP), through the United States Fire Administration's, National Fire Academy.

You are receiving this e-mail because the community you represent falls within the boundary of Elgin Community College District 509. The intent of this e-mail is to request a meeting with you to discuss your opinion of community risk reduction programs. Additionally, I am interested in your perspective of the role community colleges may play in providing community risk reduction education and training.

The results of this interview will be used as a component of an Applied Research Paper for the EFOP. The results of this interview will be kept confidential.

Thank you for your consideration.

Sincerely,

Carl M. DeCarlo, MPA  
Instructional Coordinator  
Fire Science and Safety Programs  
Elgin Community College  
1700 Spartan Drive  
Office: M 117  
Elgin, IL 60123  
847-214-7654

**Appendix K****Municipal Leader Interview Schedule**

Village/City	E-Mail Request	1 <sup>st</sup> Follow Up Phone Call	2 <sup>nd</sup> Follow Up Phone Call	Status	Interview Date
	07-05-2014	N/A	N/A	Completed	07-15-2014
	07-05-2014	07-16-2014	07-29-2014	Written Response	08-04-2014
	07-05-2014	07-14-2014	N/A	Scheduled No-Show	07-29-2014 No-show
	07-05-2014	07-16-2014	N/A	Completed	07-29-2014
	07-05-2014	07-16-2014	07-29-2014	Complete	08-11-2014
	07-05-2014	07-16-2014	07-29-2014	Complete	08-05-2014
	07-05-2014	07-16-2014	N/A	Complete	07-30-2014
	07-05-2014	07-16-2014	N/A	Declined	N/A
	07-05-2014	07-16-2014	N/A	Complete	07-29-2014
	07-05-2014	07-16-2014	07-29-2015	Declined	N/A
	07-05-2014	07-16-2014	07-29-2014	No Response	N/A
	07-05-2014	N/A	N/A	Completed	07-29-2014
	07-05-2014	07-17-2014	07-29-2014	No Response	N/A
	07-05-2014	07-14-2014	07-29-2014	No Response	N/A
	07-05-2014	07-17-2014	N/A	Complete	07-30-2014
	07-05-2014	07-16-2014	07-29-2014	Complete	08-05-2014
	07-05-2014	07-07-2014	N/A	Deferred to Fire Chief	N/A
	07-05-2014	N/A	N/A	Completed	07-15-2014
	07-05-2014	07-17-2014	07-29-2014	No Response	N/A
	07-05-2014	07-14-2014	07-29-2014	Completed	08-05-2014



## Appendix L

### Municipal Leader Interview Tool

Title:	Years of Service:
Location of Interview:	Date of Interview:
Start Time:	End Time:
Educational Status:	EFO:

#### Question 1

Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?
---

#### Question 2

Which risk categories does the city/village you represent address?
Fire Risk? Preventable Injury Risk? Crime Risk? Natural Hazards Risk Terrorism Risk? Other Man Made Risk?

#### Question 3

What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?
--

#### Question 4

Does the fire department that provides services to the city/village you represent participate in the strategic planning process?
--

#### Question 5

Does the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?
--

## Question 6

Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:
Enforcement? Engineering? Education? Economic Incentives? Emergency Response?

## Question 7

Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?
Emergency Response Data? Demographics? At Risk Populations? One Size Fits All?

## Question 8

What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?

## Question 9

Do you believe that comprehensive multi-hazard community risk reduction is a:
Value added service? A quality of life service? An element of a sustainable community? Fiscally responsible? An element of community resilience? An integral component of community planning and development? An effective budgeting tool?

**Appendix M****E-mail to Fire Chiefs**

To: [E-mail]

From: cdecarlo@elgin.edu

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Subject: Executive Fire Officer Program Questionnaire

Body: Dear Chief,

You are receiving this e-mail because the fire department you represent falls within the boundaries of Elgin Community College District 509. The intent of this e-mail is to request your participation in completing the linked questionnaire regarding comprehensive multi-hazard community risk reduction strategies.

I serve as the Instructional Coordinator for the Fire Science and Safety program at Elgin Community College. The data retrieved from this questionnaire will be used to complete an Applied Research Paper for the Executive Fire Officer program and in guiding curriculum development for the Fire Science and Safety program.

All responses to the attached questionnaire will be kept confidential. If you would like a copy of the completed Applied Research Paper or the results of this questionnaire, please contact me at [cdecarlo@elgin.edu](mailto:cdecarlo@elgin.edu).

I hope you will choose to complete the questionnaire by selecting the attached link and help us to better serve the fire service. **The deadline for completing the linked questionnaire is Friday July 25<sup>th</sup>.**

To complete the questionnaire please select the link below:

<https://www.surveymonkey.com/s/C5VYTM9>

Thank you for your time and consideration.

Sincerely,

Carl M. DeCarlo, MPA  
Instructional Coordinator  
Fire Science and Safety Programs  
Elgin Community College  
1700 Spartan Drive  
Office: M117  
Elgin, IL 60123  
847-214-7654

## Appendix N

### Fire Chief Questionnaire Questions

1. How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?

- ☐ Very Familiar
- ☐ Familiar
- ☐ Somewhat Familiar
- ☐ Not Familiar

2. Which of the following comprehensive multi-hazard community risk reduction categories does the fire department you represent address?

- ☐ Fire Risk
- ☐ Natural Hazards/Severe Weather Risk
- ☐ Preventable Injuries
- ☐ Terrorism Risk
- ☐ Other Man Made Risk
- ☐ Crime Risk
- ☐ None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.

3. What methodologies are utilized by the fire department you represent to develop community risk reduction interventions?

- ☐ Traditional one size fits all canned fire prevention activities, which are delivered community wide.
- ☐ Interventions are developed based on community emergency response data, demographics, and at risk populations, which are delivered at the fire station level.

- None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.

4. What type of staffing methodologies does the fire department you represent utilize to conduct community risk reduction activities?

- Traditional fire prevention bureau, staffed with sworn personnel, separate from the operations division.
- Traditional fire prevention bureau, staffed with civilian personnel, separate from the operations division.
- Integrated staffing methodology, sworn operations staff engaged in community risk reduction activities at the community level, in both the fire prevention bureau and the operations division.
- Civilian personnel outside of the fire department conduct community risk reduction activities
- None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.

5. Which of the following integrated risk reduction prevention interventions does the fire department you represent utilize?

- Education
- Engineering
- Enforcement
- Economic Incentive
- Emergency Response
- None

6. Which of the following entities does the fire department you represent collaborate with to accomplish comprehensive multi-hazard community risk reduction?

- ☐ Police Department
- ☐ Planning Community Development Department
- ☐ Chamber of Commerce
- ☐ Building Department
- ☐ Public Works Department
- ☐ Community based groups (Home Owners Associations, Retirement Clubs, Social Clubs)
- ☐ Citizens Emergency Response Team/Fire Corps
- ☐ School Districts
- ☐ Churches
- ☐ None, the fire department conducts comprehensive multi-hazard community risk reduction activities independently.
- ☐ None, the fire department does not engage in comprehensive multi-hazard community risk reduction activities.

7. Which of the following do you believe are essential elements of preparing fire service personnel to engage effectively in comprehensive multi-hazard community risk reduction activities?

- ☐ State Fire Marshal Certifications
- ☐ College Courses in Risk Reduction Methodologies
- ☐ College Courses in Public or Business Administration
- ☐ College Courses in Fire Science
- ☐ Paramedic Certification

- Training in Fire and Building Code Application
- None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.

8. Does the fire department you represent participate in a strategic planning process?

- Yes, participate in the strategic planning process for the fire department.
- Yes, participate in the strategic planning process for the community.
- Yes, participate in the strategic planning process for the fire department and community.
- No, the fire department does not participate in the strategic planning process.

9. Does the strategic plan contain a strategic initiative related to public safety and community risk reduction?

- Yes
- No
- Not applicable, do not have a strategic plan.

10. Which of the following do you believe are benefits of engaging in a comprehensive multi-hazard community risk reduction strategy?

- It's a quality of life issue.
- It's a value added service.
- Is an element of a sustainable community.
- Is an element of community resilience.
- Reduces the risk to firefighters/increases firefighter safety.
- Is a fiscally responsible strategy.
- Is an integral component of community planning and development.
- Is an effective budgeting tool.

- None, comprehensive multi-hazard community risk reduction philosophies are not beneficial.

11. With respect to the Executive Fire Officer Program, which of the following most accurately reflects your status?

- I have achieved Executive Fire Officer Status.
- I am currently enrolled in the Executive Fire Officer Program.
- I have been accepted into the Executive Fire Officer Program, but have not yet started the program.
- I am familiar with the Executive Fire Officer Program.
- I am not familiar with the Executive Fire Officer Program.

12. Which of the following most accurately reflects your educational status?

- State Fire Marshal Certification
- Associate Degree in Fire Science
- Associate Degree in Public or Business Administration
- Associate Degree in Another Discipline
- Bachelor Degree in Fire Science
- Bachelor Degree in Public or Business Administration
- Bachelor Degree in Another Discipline
- Master Degree in Fire Science
- Master Degree in Public or Business Administration
- Master Degree in Another Discipline
- Doctorate Degree



**Appendix O**

**Local Community College Sample Population**

1. College of DuPage
2. College of Lake County
3. Joliet Junior College
4. McHenry County College
5. Moraine Valley Community College
6. Oakton Community College
7. Prairie State College
8. South Suburban College
9. Triton College
10. Waubensee Community College
11. Harper College
12. Kishwaukee College
13. Rock Valley College

**Appendix P**

**Regional Community College Sample Population**

1. Blackhawk Community College
2. Danville Community College
3. Illinois Central College
4. Lake Land Community College
5. Lewis and Clark Community College
6. Lincoln Land Community College
7. John A. Logan Community College
8. Parkland Community College
9. Richland Community College
10. Southeastern Illinois Community College
11. Southwestern Illinois Community College
12. John Wood Community College

## Appendix Q

### National Community College Sample Population

- |   |  |
|---|--|
| 1. Bakersfield Community College, CA      | 23. Bunker Hill Community College, MA        |
| 2. College of the Sequoias, CA            | 24. Springfield Tech Community College, MA   |
| 3. Los Angeles Harbor College, CA         | 25. Prince George's Community College, MD    |
| 4. Los Angeles Valley College, CA         | 26. Eastern Maine Community College, ME      |
| 5. Porterville College, CA                | 27. Henry Ford Community College, MI         |
| 6. East Los Angeles College, CA           | 28. Macomb Community College, MI             |
| 7. Broward College, FL                    | 29. Mott Community College, MI               |
| 8. Indian River State College, FL         | 30. St. Clair Community College, MI          |
| 9. St. Petersburg College, FL             | 31. Wayne County Community College, MI       |
| 10. Valencia College, FL                  | 32. Delta College, MI                        |
| 11. Hillsborough Community College, FL    | 33. Oakland Community College, MI            |
| 12. Miami Dade College, FL                | 34. St. Louis Community College, MO          |
| 13. Albany Technical College, GA          | 35. Asheville-Buncombe Tech Comm College, NC |
| 14. Atlanta Technical College, GA         | 36. Central Piedmont Community College, NC   |
| 15. Central Georgia Technical College, GA | 37. Durham Technical Community College, NC   |
| 16. Augusta Technical College             | 38. Passaic County Community College, NJ     |
| 17. Georgia Piedmont College, GA          | 39. Raritan Valley Community College, NJ     |
| 18. South Georgia Technical College, GA   | 40. Central New Mexico Community College, NM |
| 19. West Georgia Technical College, GA    | 41. Dona Ana Community College, NM           |
| 20. Ivy Technical Community College, IN   | 42. College of Southern Nevada, NV           |
| 21. Jefferson Com & Tech College KY       | 43. Mohawk Community College, NY             |
| 22. West Kentucky Com & Tech Col, KY      | 44. Columbus State Community College, OH     |

- |                                      |   |
|--------------------------------------|---|
| 45. Zane State College, OH           | 69. Kilgore College, TX                       |
| 46. Cuyahoga Community College, OH   | 70. Lone Star College, TX                     |
| 47. Lorain Community College, OH     | 71. South Texas College, TX                   |
| 48. Sinclair Community College, OH   | 72. Tarrant County College, TX                |
| 49. Treasure Valley Comm College, OR | 73. Paul D. Camp Community College, VA        |
| 50. Umpqua Community College, OR     | 74. Tidewater Community College, VA           |
| 51. Comm Coll Allegheny County, PA   | 75. Pierce College, VA                        |
| 52. Comm Coll of Philadelphia, PA    | 76. Walla Walla Community College, WA         |
| 53. Montgomery County Comm Col., PA  | 77. Big Bend Community College, WA            |
| 54. Westmoreland Comm College, PA    | 78. Edmonds Community College, WA             |
| 55. North Hampton Comm College, PA   | 79. Skagit Valley Community College, WA       |
| 56. Trident Tech. Comm College, SC   | 80. Northeast Wisconsin Technical College, WI |
| 57. Amarillo College, TX             |   |
| 58. Blinn College, TX                |   |
| 59. College of the Mainland, TX      |   |
| 60. El Centro College, TX            |   |
| 61. Houston Community College, TX    |   |
| 62. McLennan Community College, TX   |   |
| 63. San Jacinto College, TX          |   |
| 64. Tyler Junior College, TX         |   |
| 65. Wharton Junior College, TX       |   |
| 66. Austin Community College, TX     |   |
| 67. Delmar College, TX               |   |
| 68. El Paso Community College, TX    |   |

## Appendix R

### E-mail to Community Colleges

To: [e-mail]  
From: cdecarlo@elgin.edu

---

Subject: Executive Fire Officer Program Questionnaire

Body: Dear Fire Service Colleague,

The intent of this e-mail is to request your participation in completing the linked questionnaire regarding comprehensive multi-hazard community risk reduction strategies as they relate to the fire science degree programs.

I serve as the Instructional Coordinator for the Fire Science and Safety program at Elgin Community College in Elgin, IL. I am currently completing the second year of the Executive Fire Officer program at the National Fire Academy. The data retrieved from this questionnaire will be used to complete an Applied Research Paper for the Executive Fire Officer program, exploring community colleges as a provider of a comprehensive multi-hazard community risk reduction training and education for the fire service.

Community colleges at the local, regional, and national level which offer fire science degree programs, and participate in the Achieving the Dream Initiative were selected to participate in the attached questionnaire. You are receiving this e-mail because you are the leader of a program which met all of the selection criteria.

All responses to the attached questionnaire will be kept confidential. If you would like a copy of the completed Applied Research Paper or the results of this questionnaire, please contact me at: [cdecarlo@elgin.edu](mailto:cdecarlo@elgin.edu).

I hope you will choose to complete the questionnaire by selecting the attached link, and help us to better serve the fire service. **The deadline for completing the linked questionnaire is Friday July 25<sup>th</sup>.**

Please select the link below to complete the questionnaire:

<https://www.surveymonkey.com/s/WRRZKPJ>

Thank you for your time and consideration.

Sincerely,

Carl M. DeCarlo, MPA

Instructional Coordinator  
Fire Science and Safety Programs  
Elgin Community College  
1700 Spartan Drive  
Office: M117  
Elgin, IL 60123  
847-214-7654

**Appendix S****Community College Questionnaire Questions**

1. In your opinion, what is the most important concept covered in a fire science associate degree program?
  - ☐ Fire Suppression
  - ☐ Fire Prevention
  - ☐ Emergency Medical Services
  - ☐ Comprehensive Community Risk Reduction
  - ☐ None
2. How familiar are you with the comprehensive multi-hazard community risk reduction methodology?
  - ☐ Very Familiar
  - ☐ Familiar
  - ☐ Somewhat familiar
  - ☐ Not Familiar
3. With respect to comprehensive multi-hazard community risk reduction methodology, which of the following risk categories does the community college you represent include in the fire science degree curriculum?
  - ☐ Fire Risk
  - ☐ Natural Risk/Sever Weather Risk
  - ☐ Preventable Injury Risk
  - ☐ Terrorism Risk
  - ☐ Other Man Made Risks
  - ☐ Crime Risk

- ☐ None, comprehensive multi-hazard risk reduction philosophies are not included in the fire science degree curriculum.
- 4. Which of the following risk reduction and prevention intervention theories does the college you represent include within the fire science degree curriculum?
  - ☐ Engineering
  - ☐ Enforcement
  - ☐ Emergency Response
  - ☐ Economic Incentives
  - ☐ Education
  - ☐ None, comprehensive multi-hazard risk reduction philosophies are not included in the fire science degree curriculum.
- 5. Which of the following risk reduction intervention development methodologies are covered within the curriculum of the fire science degree program you represent?
  - ☐ Traditionally developed and administered fire prevention programs delivered community wide.
  - ☐ The development of risk reduction interventions based on community emergency response data, demographics, and at risk populations.
  - ☐ None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.
- 6. Which of the following are components of the fire science program you represent?
  - ☐ State Fire Marshal Certification
  - ☐ College Degree
  - ☐ College Certificate



- ☐ Emergency Medical Technician Certification
  - ☐ Fire and Emergency Services Higher Education (FESHE) approved curriculum.
7. Does the fire science degree curriculum at the community college you represent emphasize the relationship between risk reduction/prevention activities and emergency response?
- ☐ Yes
  - ☐ No
  - ☐ Not applicable, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.
8. Does the fire science degree curriculum at the community college you represent include an overview of the strategic planning process?
- ☐ Yes
  - ☐ No
9. Does the fire science degree program curriculum at the community college you represent include community risk analysis based on community emergency response data, demographics, and at risk populations?
- ☐ Yes
  - ☐ No
  - ☐ None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.
10. Which of the following do you believe are benefits of including comprehensive multi-hazard community risk reduction strategy within the fire science degree program curriculum?

- Reduces the risk of injury, death, and property loss.
- Enhances quality of life within the community.
- Is a value added service.
- Is an element of community resilience.
- Reduces the risk of firefighter injury and death.
- Is a fiscally responsible strategy.
- Is an integral component of community planning and development.
- Is an effective budgeting tool.
- None; the comprehensive multi-hazard community risk reduction philosophies should not be included in the fire science degree curriculum.

11. With respect to the Executive Fire Officer Program, which of the following most accurately reflects your status?

- I have achieved Executive Fire Officer Status
- I am currently enrolled in the Executive Fire Officer Program
- I have been accepted into the Executive Fire Officer Program, but have not started the program.
- I am familiar with the Executive Fire Officer Program.
- I am not familiar with the Executive Fire Officer Program.

12. Which of the following most accurately reflects your educational status?

- State Fire Marshal Certification
- Associate Degree in Fire Science
- Associate Degree in Public or Business Administration
- Associate Degree in another Discipline

- Bachelor Degree in Fire Science
- Bachelor Degree in Public or Business Administration
- Bachelor Degree in another Discipline
- Master Degree in Fire Science
- Master Degree in Public or Business Administration
- Master Degree in another Discipline
- Doctorate Degree

**Appendix T****Observation Tool with Required Learning Objectives**

Associate Degree Courses:

Course/Required Learning Objective	Relevant to Comprehensive Multi-Hazard Community Risk Reduction Philosophy?	Philosophy Currently Infused?	Opportunity to Infuse Comprehensive Multi-Hazard Community Risk Reduction Philosophy?
<b>FSS 101 Introduction to Fire Science</b>			
Illustrate the history of the fire service.	Yes	No	Yes, America Burning.
Describe the components and development of the fire and emergency services.	Yes	No	Yes, America Burning.
Recognize careers in fire and emergency services.	No	No	N/A
<b>FSS 102 Fire Prevention Principles I</b>			
Understand fire prevention principles.	Yes	Yes	N/A
Understand the definitions, laws, and authority for fire inspections.	No	No	N/A
Understand the construction features and occupancy classifications needed for fire inspection.	Yes	Yes	N/A
Understand combustion, fire spread and their hazards.	Yes	Yes	N/A
Understand the procedures for conducting a fire inspection.	Yes	Yes	N/A
Understand the procedures for fire investigations.	Yes	Yes	N/A
Understand the inspecting testing and components of fire protections systems.	Yes	Yes	N/A

Understand the process for developing a fire education program.	Yes	Yes	N/A
<b>FSS 103 Fire Suppression and Building Construction</b>			
Identify various classifications of building construction.	No	No	N/A
Understand theoretical concepts of how fire impacts major types of building construction.	No	No	N/A
Identify the fundamental theories of fire behavior and combustion.	No	No	N/A
Differentiate the various types of extinguishing agents.	No	No	N/A
<b>FSS 201 Fire Fighting Tactics and Strategy I</b>			
Understand orientation to strategy and tactics.	No	No	N/A
Understand the Incident Management System.	No	No	N/A
Understand Pre-Incident Planning.	Yes	Yes	N/A
Understand building construction.	No	No	N/A
Understand the process of incident planning.	Yes	No	N/A
Understand engine company operations.	No	No	N/A
Understand truck company operations.	No	No	N/A
Understand the guidelines for handling a hazardous materials incident.	No	No	N/A
Perform strategy and tactical considerations.	Yes	No	Emphasize the relationship between risk reduction/prevention activities and effective operations.

<b>FSS 202 Hazardous Materials</b>			
Identify the different classifications of hazardous materials.	No	No	N/A
Identify the four aspects of response organization.	No	No	N/A
Identify the five response elements interacting at a hazardous materials incident.	No	No	N/A
Identify the significance of and the impact on the behavior of the container and/or its contents of the following chemical and physical properties.	No	No	N/A
Identify the six recognition clues as presented in class.	No	No	N/A
Identify the two major types of fixed facilities.	No	No	N/A
Identify a resource for determining the size of an endangered area of a hazardous materials incident.	No	No	N/A
Identify the resources available for determining the concentrations of a released hazardous material within an endangered area.	No	No	N/A
Identify the three categories of personal protection.	No	No	N/A
Identify the factors for determining the extent of physical, health, and safety hazards which exist in the endangered area of a hazardous materials incident given the concentrations of the released material.	No	No	N/A
Identify the methods for immediate notification if the incident commander and other response personnel about the	No	No	N/A

critical conditions at the incident.			
Identify the procedures for establishing control of the scene through the use of control zones.	No	No	N/A
Identify the role of the Operations level First Responder during a hazardous materials incident according to the local emergency response plan and the standard operating procedures of the organization.	No	No	N/A
Describe the information for incident activities that is relayed through the chain of command to the incident commander.	No	No	N/A
<b>FSS 203 Fire Service Hydraulics</b>			
Apply water hydraulic principles.	No	No	N/A
Demonstrate knowledge of water hydraulics as it relates to fire protection.	No	No	N/A
<b>FSS 204 Fire Protection Systems</b>			
Identify and describe various types and uses of fire protection systems.	Yes	No	Emphasize relationship between risk reduction/prevention activities and efficient and safe emergency operations.
Describe the basic elements of a public water supply system as it relates to fire protection.	No	No	N/A
<b>FSS 206 Fire Service Management I</b>			
Orientation for the fire officer.	Yes	No	Identify the role of the company officer as a leader in community risk reduction at the firehouse/community level.
Understand human resources management.	Yes	No	Identify the relationship

			between budget, community planning, strategic planning, and risk reduction.
Understand community awareness /public relations.	Yes	Yes	N/A
Understand organizational structure.	Yes	No	Identify the relationship between various entities, integrated staffing methodologies and other departments relative to risk reduction.
Understand fire department budget process.	Yes	No	Identify budget requests based on community risk assessment and the strategic planning process.
<b>FSS 207 Fire Service Management II</b>			
Orientation for the fire officer.	No	No	N/A
Understand the communication process.	No	No	N/A
Understand the written communication process.	Yes	No	Stress the importance of accurate reports to obtain accurate data for analysis
Understand human resources management.	No	No	N/A
Identify safety practices,	No	No	N/A
Identify organizational structure.	No	No	N/A
Identify government structure.	No	No	N/A
<b>F22 214 Fire Service Instructor I Basic</b>			
Know the terms and concepts of fire service instructional activities.	No	No	N/A
Describe the roles and responsibilities of a Fire Service Instructor.	No	No	N/A



Know the elements of oral communications.	No	No	N/A
Understand the concepts of learning.	No	No	N/A
Know how to use instructional media.	No	No	N/A
Understand instructional planning.	No	No	N/A
Describe instructional development components.	No	No	N/A
Understand instructional delivery techniques.	No	No	N/A
Understand and illustrate testing and evaluation techniques.	No	No	N/A
Demonstrate competency by exhibiting a lecture and demonstration method program.	No	No	N/A
<b>FSS 215 Emergency Medical Technician Basic</b>			
Applies fundamental knowledge of the emergency medical services (EMS) system, safety/well-being of the emergency medical technician (EMT), medical/legal, and ethical issues to the provision of emergency care.	Yes	No	Preventable Injures
Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency.	No	No	N/A
Applies scene information and patient assessment findings (scene size-up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.	Yes	No	Community Risk Assessment
Applies knowledge of general anatomy and physiology to patient assessment	No	No	N/A

and management in order to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages.			
Applies a fundamental knowledge of the causes, pathophysiology, and management of shock, respiratory failure or arrest, cardiac failure or arrest, and post-resuscitation management.	No	No	N/A
Applies fundamental knowledge of the pathophysiology of respiration and perfusion to patient assessment and management.	No	No	N/A
Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.	No	No	N/A
Applies a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs.	Yes	No	Community Demographics
Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.	Yes	No	Community Risk Assessment
<b>FSS 220 Legal Concerns in Emergency Services</b>			
The student will be able to analyze Federal, State, and local laws and consensus standards as they pertain to the fire service.	No	No	N/A

*Note:* Source: Elgin Community College Catalog 2014-2015 (Elgin Community College, 2014), Office of the Illinois State Fire Marshal (Office of the Illinois State Fire Marshal, n.d.). Illinois Department of Public Health (Illinois Department of Public Health, 2014). Elgin Community College Fire Science and Safety Associate Degree Course Syllabi.

## Appendix U

## Faculty Member Interview Responses

## Elgin Community College Faculty Member Interview Results

<b>Start:</b> 9:13 pm	<b>End:</b> 9:36 pm
<b>Date of Interview:</b> 07-09-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar	<b>Attended NFA Resident Course:</b> No

<b>Start:</b> 9:40 pm	<b>End:</b> 10:06 pm
<b>Date of Interview:</b> 07-09-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> No

<b>Start:</b> 7:45 am	<b>End:</b> 8:49 am
<b>Date of Interview:</b> 07-14-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar	<b>Attended NFA Resident Course:</b> No

<b>Start:</b> 8:30 am	<b>End:</b> 09:40 am
<b>Date of Interview:</b> 08-12-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> Yes

<b>Start:</b> 2:50 pm	<b>End:</b> 3:47 pm
<b>Date of Interview:</b> 07-14-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> Yes	<b>Attended NFA Resident Course:</b> Yes

<b>Start:</b> 12:00 pm	<b>End:</b> 12:20 pm
<b>Date of Interview:</b> 07-24-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar	<b>Attended NFA Resident Course:</b> Yes

<b>Start:</b> 1:30 pm	<b>End:</b> 2:45 pm
<b>Date of Interview:</b> 07-30-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> Yes

<b>Start:</b> 8:30 am	<b>End:</b> 09:40 am
<b>Date of Interview:</b> 08-11-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> Yes

<b>Start:</b> 7:10 am	<b>End:</b> 07:45 am
<b>Date of Interview:</b> 07-14-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> No

<b>Start:</b> 10:00 am	<b>End:</b> 11:10 am
<b>Date of Interview:</b> 08-13-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> Yes

<b>Start:</b> 5:00 pm	<b>End:</b> 05:50 pm
<b>Date of Interview:</b> 07-14-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> No

<b>Start:</b> 12:55 pm	<b>End:</b> 1:25 pm
<b>Date of Interview:</b> 07-14-2014	<b>Educational Status:</b> N/A
<b>EFO:</b> No/Familiar with	<b>Attended NFA Resident Course:</b> Yes

**Question 1**

<b>How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?</b>
Not that familiar/but know broad context.

**Question 2**

<b>In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?</b>
Fire prevention training and education.

**Question 3**

<b>In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?</b>
Very important. Huge return on investment. Overcome fire service culture of “anti-prevention.”

**Question 4**

<b>Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?</b>
Infuse all aspects in our program. If resources are scarce prioritize. Outreach to kids pays huge dividends/helps to change societal culture. Train firefighters to conduct public education.

**Question 5**

<b>Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?</b>
Yes. What the point of engaging in prevention if we cannot use it, or don't know how to use it.

**Question 6**

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Expectations may be very high for this.  
Many communities do not have strategic plans.  
May be beneficial.  
Community may not want to reveal weaknesses.

**Question 7**

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes, maybe above the level of entry level and possibly Fire Officer 1, but should be included in Fire Officer 2. First level supervisor may not use all of the concepts or information.

**Question 8**

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

New folks may be overwhelmed by the concepts.  
Eventually will work and make a difference.  
May meet extreme resistance from current firefighters.

**Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

I am not familiar with the curriculum.

**Question 10**

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Should offer this curriculum as a part of Fire Officer training.

**Question 1**

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Not that familiar.

**Question 2**

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Emergency Medical Services = the majority of calls.

**Question 3**

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Very Important.  
It's the future.  
We need to do this, or we will see more privatization.  
Key to preservation of the fire service.

**Question 4**

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Emphasize communication skills, written and oral, before risk reduction curriculum.  
If they cannot communicate the risk does not matter.

**Question 5**

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Yes, absolutely. Sprinklers systems in homes is a great example.  
Understand how it works makes us more efficient.  
Medicine is doing this right now. Prevent illness, "do not medicate."

**Question 6**

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Yes, absolutely.  
Without it you don't know where you are going.  
Incorporate more elements of public/government operations.  
Focus at the community level.

**Question 7**

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

We need philosophies that can be applied at the community level.  
What works in large urban areas will not necessarily work here.

**Question 8**

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Huge benefit.  
Will keep us in business.  
Will provide a community and quality of life.  
Will get resistance from the fire service at first.

**Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes, it's our future/standardized across states.

One concern, ability to maintain local aspects.

**Question 10**

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Yes. Should pursue for future adoption/inclusion.

**Question 1**

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Yes. Applying to our community (specifically nursing homes).

**Question 2**

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

All are interconnected.

But, to answer this question; Emergency Medical Services = 705 to 805 of calls.

Firefighters need to know basic concepts.

**Question 3**

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Yes. But, how do we get people to buy into this concept?

How do we get them excited about prevention activities?

We are the fire service; we are "reactive" 90% of the time.

**Question 4**

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Use all five "Es".

Must be tailored to local community.

For example the community I serve has a significant population of Polish speaking immigrants.

Should be covered in a broad context.

Tailored to audience (level of learning and career/rank).

Apply to demographics.

**Question 5**

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Yes!!!

The fire service needs to open up their minds to fire prevention/risk reduction.

Combat antiquated thinking; “firefighters against sprinklers.” “Will put us out of a job.”

That’s bad logic!

**Question 6**

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Yes. Provide a better understanding of how programs link to the strategic plan.

“Learn to speak Polish” to reach the intended audience.

Know your still districts; “the people” and “the risks.”

Helps to secure funding.

**Question 7**

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes. Review areas of risk.

We need more risk analysis in the curriculum.

Preplans are the first step.

Fire Officer 1 and Fire Officer 2 need this curriculum.

Building blocks to the desired outcome.

**Question 8**

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Reduce firefighter injury, death, and risk.

Better community, based on what is at risk in your community.

Stop being the moth to the flame.

Reduce civilian losses and injury.

**Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes. Cost is a concern for my students.

Same concepts across the country-applied to your department/community.

Win/Win.

Yes, it’s like an SOG for your department, only on a national scale.



**Question 10**

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Involve more site visits for practical applications.  
Funding is a concern.  
Adult learners need to apply concepts.

**Question 1**

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Very Familiar with philosophy.

**Question 2**

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Risk reduction =  
Less impact to community.  
Less impact to responders.  
A safe community.  
Community that is desirable to live in.  
Better quality of life.

**Question 3**

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Very Important.  
We are already trying to do this at all level of the curriculum.  
Not up to fire chief or fire marshal – company officer can have the greatest impact.  
Star fish concept.  
It's not fancy but should be a part of daily operation.

**Question 4**

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Yes:  
Everything we do is a systems approach.  
It takes all to work effectively and efficiently.  
Multiple "Es" exposures.  
Easily integrated into all classes.  
Application of concepts in higher level classes.

**Question 5**

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Yes- Vision 20/20 - \$1 in community risk reduction = \$7 to 20 dollars in community savings.

**Question 6**

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Yes, going forward we need to explore offering in a workshop format.  
Engage the community.

**Question 7**

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes, more so even than we do know.  
Higher level course should have interpretation and application components.

**Question 8**

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Safer firefighters.  
Safer community.  
Higher quality of life.

**Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

It's essential.

**Question 10**

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Yes, this philosophy will

- help breakdown stereotypes of firefighters
- lead to a more professional status for the fire service
- help the fire service engage academia
- help with community development
- help with inclusion of all public services

Where else can we infuse this philosophy within the college (other programs with at risk populations)?

**Question 1**

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Very, I am an EFO guy.

**Question 2**

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Risk reduction:

- Most don't consider this.
- This is what it's all about.
- Need a class on CCRR.
- Educate people.
- Think prevention.
- Right context.
- It's what we do.

**Question 3**

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Important. People do not have access to these philosophies in other fire service classes/programs.  
Risk reduction permeates the fire service.  
Need more exposure early.

**Question 4**

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Education is most logical and economical.  
Spend more time on engineering.  
Many in the fire service are unaware of these philosophies.

**Question 5**

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Yes, absolutely.

As you become older your perspective changes:

- You see the value in these philosophies.
- Understand the importance of changing attitudes.

**Question 6**

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Yes, I did not have exposure to these concepts until later in my career.

Planning is good, should explore how you develop a plan.  
 Concern that going to in depth may be to advanced.  
 It's an important aspect.

### Question 7

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes, makes sense, good o talk about, good to know, will influence people to collect the right data.  
 No, may struggle with lack of information to analyze.  
 May not gather enough data to analyze.  
 May not be able to apply but better equipped and understanding of philosophies.

### Question 8

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Cost effective.  
 Better product – what we provide to the community.  
 Reduce injury.  
 Reduce fire loss.  
 A better community.

### Question 9

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes, I am an EFO guy, so FESHE is cool!  
 Makes sense!!!!  
 Adds to the professionalism of the fire service.  
 FESHE is the career path for a firefighter.

### Question 10

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

None, we are well on our way!!

### Question 1

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Very WELL. Just completed a college course on topic.

### Question 2

**In your opinion, what is the most important topic covered in the Fire Science and Safety**

**curriculum at Elgin Community College?**

Education = knowledge/enlightenment

**Question 3****In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Paramount.

Leaders of tomorrow must know these concepts.

**Question 4****Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Education/Emergency response.

In order to respond to rapidly changing world leaders must be educated.

**Question 5****Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Absolutely!!!!

**Question 6****Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Yes!!

Community should be in everything we do.

Must understand strategic/planning in order to serve the community to our fullest.

**Question 7****Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes. Should start exposing the students to these philosophies in the introduction class.

Census.gov is one example

Could help new students understand the community.

**Question 8****What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Better educated = safer firefighters.

Better qualified to participate in the planning process.

Help to change fire service culture.

Help guide communities thru tough times.

**Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes, will need to do this to continue to offer associate degree program.  
It is the benchmark.

**Question 10**

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Yes. Find a way to reach out to current fire officers and firefighters and share this philosophy so that work is not lost when new firefighters enter the firehouse.  
Change the culture!

**Question 1**

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Familiar, I have a prevention risk reduction background.

**Question 2**

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Prevention – it's my background!

**Question 3**

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Great idea/multifaceted/Public education is important.  
Great opportunity to build community equity.  
Opportunity to build bridges.  
Learn about the community.  
Demographics is important.

**Question 4**

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Education is the most important.  
Information flows both ways.  
Great data collection tool as well.  
School programs pay huge returns.  
Dial education into audience and have benchmarks.

**Question 5**

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Yes, we should.

These activities center on value and may not be measured in terms of money.

#### **Question 6**

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Yes, caution though moving forward with this.

Can be very generic.

Not as action oriented as fire service is used to.

Need to drill down to how it affects fire service.

#### **Question 7**

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Good idea.

Data drives our fire department.

Data is the key to fire service operations.

Will provide firefighter with insight of the community.

#### **Question 8**

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Better quality of life.

Economical.

Good background information.

Yes, learning on both ends.

#### **Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes, value as a national standard/consistent.

No, need flexibility to apply locally.

#### **Question 10**

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Not too deep.

Cover overview.

Diverse student base.

Needs flexibility.

Big picture is good.
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**Question 1**

<b>How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?</b>
--

Somewhat familiar with.
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**Question 2**

<b>In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?</b>
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Emergency Medical Services = employment for students
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**Question 3**

<b>In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?</b>
---

Important, especially in fire officer classes.
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**Question 4**

<b>Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?</b>
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Should cover all 5 “Es.”
--------------------------

**Question 5**

<b>Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?</b>
---

Yes, particularly with government departments/provides the why especially at budget time.
---

**Question 6**

<b>Should the fire science and safety curriculum contain an overview of the strategic planning process?</b>
---

Yes!
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**Question 7**

<b>Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?</b>
---

Yes, need to provide reasoning behind the importance of data.
---

Could be a challenge because the fire service is action oriented.
---

**Question 8**

<b>What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?</b>
--



Better prepared future leaders and decision makers.  
 Better informed to make financial decision.  
 Personally better developed and prepared for future advancement.

**Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes, consistent, access to jobs nationally.  
 I am not familiar with all of the learning objectives in FESHE.

**Question 10**

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Consider application into fire and EMS courses.  
 There is value in this philosophy.  
 It's the #1 rule of the fire service.

**Question 1**

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Somewhat familiar/have read about it/taken classes

**Question 2**

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Firefighter Safety/Fire Prevention.

**Question 3**

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Very Important. Need to know how to assess risk so we can prevent events, educate public/increase safety of firefighters.

**Question 4**

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Should be all and expanded to all students.  
 It's the future of FSS.  
 Let department define focus.

**Question 5**

**Should the fire science and safety curriculum emphasize the relationship between risk**

**reduction/prevention and operations?**

Yes, must tie two together = benefits on fire ground.

**Question 6****Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Be aware. But fire service should be focus.

Different types of students here at Elgin Community College.

Need to be aware of financial aspects of fire service.

**Question 7****Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes, firefighters need to be aware of how to identify threats in their community.

Should be aware of socio economic conditions as well.

**Question 8****What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Well rounded firefighter.

Help future leaders.

**Question 9****Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes, to a point.

Education must remain affordable.

**Question 10****Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

Looking forward to new public safety training facility.

**Question 1****How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Certain aspects which are cross walked into accreditation process. Worked with villages in our district to implement at local level. Somewhat familiar with philosophy.

**Question 2****In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Prepare are important for the job. All are important based on assignment and job.  
 It all interacts.  
 It's all important.  
 Educate on all – risk reduction plays a role in all aspects.

### Question 3

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Important. The new folks will see these concepts the rest of their careers.

### Question 4

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

All need to be incorporated at the basic level.  
 Well rounded firefighters may not be an expert in all.  
 May not be at the advanced level but that's okay.  
 Why we are doing what we are doing.

### Question 5

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Yes, adult learner needs to know why we do what we do.  
 Get the full picture.  
 Safe environment.

### Question 6

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

Yes, it's part of what we do /accreditation.  
 It's where we are going.  
 Risk reduction is strategic planning. Even at the firehouse level.  
 We should at the very least scratch the surface.

### Question 7

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes, it will:

- Be doing it for a career.
- Explain why we do what we do.
- Help understand staffing models.

Adult learner needs to know why.

### Question 8

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Better educated well rounded firefighter.  
 Start changing attitudes of firefighters.  
 Better community.  
 Better understanding of the community and citizenry.  
 Assemble team with knowledge base to contribute to mission of fire department.  
 Starts professional development process.  
 Increases professionalism of the fire service.  
 We need a strategic plan to define where we are going.

### Question 9

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Should be baseline.  
 Must be structured to allow some flexibility at local level.  
 Will allow for infusing curriculum.  
 Must meet varying demands locally.

### Question 10

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

We are moving forward, looks like we are leading the way.  
 I have a business background. We lack the business perspective in the fire service. We need more of a business perspective in the fire service and in community college fire science programs.

### Question 1

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Never heard of it, not that familiar.

### Question 2

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Fire Prevention = Thinking about being proactive.  
 Firefighter safety.  
 Public education (school programs).  
 Easier to influence new firefighter attitudes than try to change a culture.

### Question 3

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk**

**reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Should incorporate into EMT-B class/reduce risk.

Majority of our calls.

Risk prevention mitigation crosses all lines (in terms of our course offerings in FSS).

**Question 4**

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Engineering is important, can be present in many ways and in many classes.

There is value in incorporating all into curriculum.

**Question 5**

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Already incorporated. Just need to refine and enhance.

Keep in mind varied students from Firefighter to students.

Need more applications of this concept.

**Question 6**

**Should the fire science and safety curriculum contain an overview of the strategic planning process?**

For fire officer classes – yes.

For new firefighters entry level classes – no.

Need to master emergency response skills first.

**Question 7**

**Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?**

Yes, better understanding of their communities.

**Question 8**

**What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?**

Well rounded firefighter.

Helps explain why we do what we do.

Key for the adult learner.

Well informed public is huge.

Safer, less loss.

**Question 9**

**Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?**

Yes, need for high levels of performance and interoperability at large events.  
 All on the same page.  
 Same thing taught across the country.  
 NIRS is an example.

### Question 10

**Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?**

One caution, should not tell people how to live in their own homes, but we can do a better job of trying to reach them.  
 Fire service needs to be trained in how to reach the public.

### Question 1

**How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**

Know about it. Somewhat familiar. Just read about pilot offering at NFA.

### Question 2

**In your opinion, what is the most important topic covered in the Fire Science and Safety curriculum at Elgin Community College?**

Fire Officer Training = suppression/prevention/leadership.

### Question 3

**In your opinion, how important is it to infuse comprehensive multi-hazard community risk reduction methodologies into the Fire Science and Safety curriculum at Elgin Community College?**

Yes, value in this philosophy.  
 Caution: Students may hit resistance from practitioner.  
 Need to change the fire service culture slowly.  
 Fire service/firefighters need right attitude.

### Question 4

**Which integrated risk reduction and prevention interventions do you feel should be incorporated into the Fire Science and Safety curriculum at Elgin Community College?**

Need to cover economic incentives "what's in it for them."  
 Need to explain benefit/change minds of civilians.

### Question 5

**Should the fire science and safety curriculum emphasize the relationship between risk reduction/prevention and operations?**

Yes, work safely/take advantage of fire prevention work.

### Question 6

<b>Should the fire science and safety curriculum contain an overview of the strategic planning process?</b>
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<p>Yes, one step farther/need national scope or standard to follow through process. Just like an "NFPA Standard." Would have the same value.</p>
--

**Question 7**

<b>Should the fire science and safety curriculum include a community risk analysis component based on community response data, demographics, and at risk populations?</b>
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<p>Yes, because you need to know what the citizens need from us. At a minimum will reduce firefighter death and injury. May help with behavioral health.</p>
--

**Question 8**

<b>What impact do you feel infusing comprehensive multi-hazard community risk reduction philosophies into the Fire Science and Safety Curriculum will have on the fire service and the community we serve?</b>
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<p>Initially, none. 16 Life Safety Initiatives. We are changing a culture with this. But, if we stay the course better life for community.</p>
--

**Question 9**

<b>Do you believe there is value in adopting the Fire and Emergency Services Higher Education curriculum at Elgin Community College?</b>
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<p>Limited specific knowledge. But am aware of it. Yes, especially if it gets more people to travel to the NFA. This will change the culture. Increase safety. Katrina and NIMs is an example of adapting a national standard.</p>
--

**Question 10**

<b>Is there anything else you would like to share regarding comprehensive multi-hazard community risk philosophies and the Fire Science and Safety Program at Elgin Community College?</b>
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<p>Make sure we have buy-in from faculty and fire chiefs before infusing CCRR curriculum into FSS Program. Train faculty in concepts.</p>
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## Appendix V

## Municipal Government Leader Interview Responses

## Executive Fire Officer City/Village Administrator Interview Results

<b>Title:</b> Village Manager/Clerk/Police Chief	<b>Years of Service:</b> N/A
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> August 05, 2014
<b>Start Time:</b> 9:00 am	<b>End Time:</b> 9:20 am
<b>Educational Status:</b> N/A	<b>EFO:</b> No/Not Familiar

<b>Title:</b> Village Manager	<b>Years of Service:</b> N/A
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> August 05, 2014
<b>Start Time:</b> 10:30 am	<b>End Time:</b> 10:48 am
<b>Educational Status:</b> MPA	<b>EFO:</b> No/Not Familiar

<b>Title:</b> Village Manager	<b>Years of Service:</b> 35
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> July 15, 2014
<b>Start Time:</b> 7:55 am	<b>End Time:</b> 8:25 am
<b>Educational Status:</b> MPA	<b>EFO:</b> No/Yes Familiar

<b>Title:</b> Human Resources Director/Deputy Police Chief/Intern	<b>Years of Service:</b> N/A
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> July 15, 2014
<b>Start Time:</b> 9:30 am	<b>End Time:</b> 10:05 am
<b>Educational Status:</b> Master Degree	<b>EFO:</b> No/Yes Familiar

<b>Title:</b> Village President	<b>Years of Service:</b> 24
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> July 30, 2014
<b>Start Time:</b> 8:30 am	<b>End Time:</b> 8:50 am
<b>Educational Status:</b> N/A	<b>EFO:</b> No/Not Familiar

<b>Title:</b> City Manager	<b>Years of Service:</b> 20
<b>Location of Interview:</b> City Hall	<b>Date of Interview:</b> July 30, 2014
<b>Start Time:</b> 10:00 am	<b>End Time:</b> 10:50 am
<b>Educational Status:</b> MPA	<b>EFO:</b> No/Yes Familiar

<b>Title:</b> Village Trustee	<b>Years of Service:</b> 11
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> July 29, 2014
<b>Start Time:</b> 5:25 pm	<b>End Time:</b> 6:15 pm
<b>Educational Status:</b> N/A	<b>EFO:</b> No/Not Familiar



<b>Title:</b> Village Administrator	<b>Years of Service:</b> 10
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> July 29, 2014
<b>Start Time:</b> 11:00 am	<b>End Time:</b> 11:40 am
<b>Educational Status:</b> MPA	<b>EFO:</b> No/Not Familiar

<b>Title:</b> Police Chief	<b>Years of Service:</b> 22
<b>Location of Interview:</b> Police Department	<b>Date of Interview:</b> July 29, 2014
<b>Start Time:</b> 9:25 am	<b>End Time:</b> 9:45 am
<b>Educational Status:</b> MS	<b>EFO:</b> No/Somewhat Familiar

<b>Title:</b> Village Manager	<b>Years of Service:</b> 24
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> August 05, 2014
<b>Start Time:</b> 1:48 pm	<b>End Time:</b> 8:35 pm
<b>Educational Status:</b> MPA	<b>EFO:</b> No/Not Familiar

<b>Title:</b> Village Manager	<b>Years of Service:</b> 30+
<b>Location of Interview:</b> Village Hall	<b>Date of Interview:</b> August 11, 2014
<b>Start Time:</b> 10:20 am	<b>End Time:</b> 11:05 am
<b>Educational Status:</b> MPA	<b>EFO:</b> No/Yes Familiar

<b>Title:</b> Asst. Village Administrator	<b>Years of Service:</b> 21
<b>Location of Interview:</b> e-mailed response	<b>Date of Interview:</b> 8-4-14
<b>Start Time:</b> N/A	<b>End Time:</b> N/A
<b>Educational Status:</b> MPA	<b>EFO:</b> N/A

### Question 1

<b>Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?</b>
Yes: Utilize formal emergency operations plan as the method of risk reduction.

### Question 2

<b>Which risk categories does the city/village you represent address?</b>
<b>Fire Risk?</b> Yes/Fire District. <b>Preventable Injury Risk?</b> Yes. <b>Crime Risk?</b> Yes. <b>Natural Hazards Risk?</b> Yes/flooding and severe weather. <b>Terrorism Risk?</b> No, but have a plan. <b>Other Man Made Risk?</b> No.

### Question 3

<b>What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?</b>
Career/part-time.

**Question 4**

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes, in Emergency Operations Plan. No strategic plan for the village.

**Question 5**

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

No.

**Question 6**

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes.

**Engineering?** Yes.

**Education?** No.

**Economic Incentives?** No.

**Emergency Response?** Yes, utilize emergency notification system.

**Question 7**

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.

**Demographics?** No.

**At Risk Populations?** Yes.

**One Size Fits All?** Sometimes.

**Question 8**

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Communications Skills.

**Question 9**

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Yes.

**A quality of life service?** Yes.

**An element of a sustainable community?** Yes.

**Fiscally responsible?** Yes.

**An element of community resilience?** No.

**An integral component of community planning and development?** Yes.

**An effective budgeting tool?** No.

**Question 1**

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes: Fire Department/Police Department.

**Question 2**

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes/Fire Department.

**Preventable Injury Risk?** Yes, but more service oriented than risk reduction.

**Crime Risk?** Yes.

**Natural Hazards Risk?** Yes/severe weather spotters and flood mitigation.

**Terrorism Risk?** Yes.

**Other Man Made Risk?** Yes.

**Question 3**

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

Full time and /part-time.

Also utilize automatic and mutual aid agreements with neighboring communities.

**Question 4**

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes. The Village has a strategic plan.

**Question 5**

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

No, not explicitly stated in the strategic plan.

**Question 6**

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes, building/fire/police departments.

**Engineering?** Yes.

**Education?** Yes, significant emphasis on public education.

**Economic Incentives?** Yes, sprinkler ordinance that requires automatic fire sprinklers and provides economic and code tradeoffs.

**Emergency Response?** Yes, with village resources and with automatic and mutual aid agreements.

**Question 7**

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.  
**Demographics?** Yes.  
**At Risk Populations?** Yes.  
**One Size Fits All?** Yes, automatic sprinkler requirements.

### Question 8

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Management, Business, Leadership, and Communications Skills Sets.

### Question 9

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Yes.  
**A quality of life service?** Yes.  
**An element of a sustainable community?** Yes.  
**Fiscally responsible?** Yes.  
**An element of community resilience?** Not sure.  
**An integral component of community planning and development?** Yes.  
**An effective budgeting tool?** Yes.

### Question 1

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes, all city departments are involved.  
Goals and objectives are linked to budget.  
Data drives decisions (demand for service/potential risk exposure).  
Example: crime free housing program that involves all city departments to reduce the risk of crime.

### Question 2

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes/Fire Department.  
**Preventable Injury Risk?** Yes, fire and police departments.  
**Crime Risk?** Yes, police department.  
**Natural Hazards Risk?** Yes, through comprehensive planning (strategic plan).  
**Terrorism Risk?** Yes, watch partner with Cook County Office of Emergency Management.  
**Other Man Made Risk?** Yes, through comprehensive planning (strategic planning).

### Question 3

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

Career. Use village staff from all departments to accomplish stated goals and objectives.  
Foster an environment that promotes high levels of collaboration among all village departments.

Maintain a global perspective.

Line firefighters conduct prevention (risk reduction) activities on shift and are hired back under a “7G” plan to work on their days off.

Fire prevention and risk reduction activities include residential occupancies.

#### Question 4

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes, involved in the strategic planning process.

#### Question 5

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Not specific.

Reflected in general operating principles.

Included in mission statement.

Stated in goals and objectives.

#### Question 6

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes fire department staff.

**Engineering?** Yes.

**Education?** Yes, fire and police departments.

**Economic Incentives?** No.

**Emergency Response?** Yes.

#### Question 7

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.

**Demographics?** Yes.

**At Risk Populations?** Yes.

**One Size Fits All?** No.

Village has social workers on staff.

Village embraces a community oriented public services approach.

#### Question 8

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

The village has taken advantage of the tight labor market by selecting the best applicants and requiring more certification/education/training for entry level positions.

Written and verbal communications skill sets.  
 Paramedic certification for entry level applicants (majority of calls for service and expensive to provide initial training).  
 The village values higher education (60 college credits required of entry level applicants).  
 Technical community college degrees for entry level applicants.

**Question 9**

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Yes.  
**A quality of life service?** Yes.  
**An element of a sustainable community?** Yes.  
**Fiscally responsible?** Yes.  
**An element of community resilience?** No.  
**An integral component of community planning and development?** Yes.  
**An effective budgeting tool?** Yes.

Is a part of basic village services.  
 Should be part of the foundation of village operations and services.

**Question 1**

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes, partner with county, fire protection district, and all village departments.

**Question 2**

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes/Fire protection district.  
**Preventable Injury Risk?** Yes, police department.  
**Crime Risk?** Yes, police department (neighborhood watch program an example).  
**Natural Hazards Risk?** Yes, collaborate with county.  
**Terrorism Risk?** Yes, completed threat analysis and rural domestic preparedness.  
**Other Man Made Risk?** Yes.

**Question 3**

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

Career. All departments are involved in community risk reduction.

**Question 4**

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

No, not directly.  
 Maintain a good relationship with the fire protection district.  
 Collectively maintain and revise emergency operations plan.

**Question 5**

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Not sure, may not have a specific reference or strategic initiative.

**Question 6**

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes, building department staff.

**Engineering?** Yes.

**Education?** Yes, (Lions Club).

**Economic Incentives?** No.

**Emergency Response?** Yes.

**Question 7**

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** No.

**Demographics?** No.

**At Risk Populations?** No.

**One Size Fits All?** No.

**Question 8**

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Fire academy – technical skills.

Emergency management skill set.

Basic concepts need to be covered (emergency services).

**Question 9**

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Yes.

**A quality of life service?** Yes.

**An element of a sustainable community?** Yes.

**Fiscally responsible?** Yes.

**An element of community resilience?** Yes.

**An integral component of community planning and development?** Yes.

**An effective budgeting tool?** Yes.

Average citizen is not aware of the value of community risk reduction.

Important to educate the citizens.

Buy in for concept is needed and is achieved through citizen education.

**Question 1**

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes, police department checks on elderly and fire protection district does public education. Town is about 2/3 adult and 1/3 juvenile.

**Question 2**

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes, Fire Protection District.

**Preventable Injury Risk?** No.

**Crime Risk?** Yes, police department.

**Natural Hazards Risk?** Yes, through Kane county Emergency Action Plan.

**Terrorism Risk?** No.

**Other Man Made Risk?** No.

**Question 3**

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

A mix of volunteer, part-time and career staff.

**Question 4**

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes, the fire protection district has a strategic plan. Not with the village.

**Question 5**

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

No.

**Question 6**

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Not sure. We are a small town and coordinate everything with the Fire Protection District.

**Engineering?** Not sure. We are a small town and coordinate everything with the Fire Protection District.

**Education?** Not sure. We are a small town and coordinate everything with the Fire Protection District.

**Economic Incentives?** Not sure. We are a small town and coordinate everything with the Fire Protection District.

**Emergency Response?** Not sure. We are a small town and coordinate everything with the Fire Protection District.



**Question 7**

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.

**Demographics?** Yes.

**At Risk Populations?** Yes.

**One Size Fits All?** Yes.

**Question 8**

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Hard question to answer. I am not an expert in the fire service.

Emergency Medical Services is important to our community.

Fire Chiefs should have an understanding of finance in the public sector, it's much different than in the private sector.

Public administration would be of value to a fire chief.

**Question 9**

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Yes.

**A quality of life service?** Yes.

**An element of a sustainable community?** Yes.

**Fiscally responsible?** Yes.

**An element of community resilience?** Yes.

**An integral component of community planning and development?** Yes.

**An effective budgeting tool?** Yes.

All education is important in public service.

Elgin community college is close and inexpensive.

**Question 1**

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes, taken steps recently further enhance and develop.

Emergency Management within the scope of the Fire Department's mission.

Community risk reduction is now given a priority.

**Question 2**

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes/Fire Department.

**Preventable Injury Risk?** Yes, fire and police departments. As well as a focus on internal risk reduction for employees.

**Crime Risk?** Yes, police department.

**Natural Hazards Risk?** Yes, through comprehensive planning (strategic plan).  
**Terrorism Risk?** Yes, watch partner with Cook County Office of Emergency Management.  
**Other Man Made Risk?** Yes, through comprehensive planning (strategic planning).

Focus on technology to reduce risk enhance personnel performance.  
 Surveillance program.  
 Power lift cots on all ambulances.  
 Full time risk manager.  
 Functional fitness program for personnel.  
 Concentration work place injury reduction=quality of life.

### Question 3

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

All career staff, some with part-time hours.

### Question 4

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes, plans are to go even deeper to reach and engage all stakeholders.

### Question 5

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Yes, a very through approach.  
 Strategic initiative lead by fire department.

### Question 6

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes, fire department, building department, and code enforcement.  
**Engineering?** Yes, fire department and building department.  
**Education?** Yes, fire and police departments.  
**Economic Incentives?** Yes, adopted ordinances.  
**Emergency Response?** Yes, fire department and police department.

### Question 7

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.  
**Demographics?** Yes.  
**At Risk Populations?** Yes.  
**One Size Fits All?** Yes, when appropriate.

Data drives decisions more so now than ever.  
 Major focus on technology.  
 Example: Google glasses for the fire department.

### Question 8

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Fire department has the highest level of education of all departments within the city.  
 Challenge is how to involve the fire department in other aspects of government. Overtime rates are a concern.  
 Fire service is a profession.  
 Changing culture/paradigm, a more collaborative approach is taking shape.  
 Aging population will impact the community and fire service.  
 Emergency Medical Services has proven the value of education in the fire service and to the community.

### Question 9

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Yes.  
**A quality of life service?** Yes.  
**An element of a sustainable community?** Yes.  
**Fiscally responsible?** Yes.  
**An element of community resilience?** Yes.  
**An integral component of community planning and development?** Yes.  
**An effective budgeting tool?** Yes.

Yes, information exchange and collaboration between the fire service and other departments produces value for the community.  
 Will lead to better management of government through a better understanding of how departments operate and impact each other and the community.  
 Will help us to look to the future.  
 Do not take anything for granted, funds are limited.  
 Funding will remain a challenge for the foreseeable future.

### Question 1

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes, rely heavily on collaboration with other government entities.  
 Established Emergency Operations Plan.  
 Adopted ordinances to support plan.  
 Trustees have necessary skills to establish plan and update as needed.

### Question 2

**Which risk categories does the city/village you represent address?****Fire Risk?** Yes/Fire Protection District.**Preventable Injury Risk?** No, don't think so.**Crime Risk?** Yes, police department.**Natural Hazards Risk?** Yes, mitigation at the county level. Kane County Emergency Operations Plan.**Terrorism Risk?** Yes, mitigation at the county level. Kane County Emergency Operations Plan.**Other Man Made Risk?** No, don't think so.

Have inter-governmental agreements in place.

We engage with communities around us.

The plan has backups in place.

**Question 3****What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

We are understaffed. We utilize volunteers, career and part-time staff.

**Question 4****Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

No, not yet. But, the Fire Protection District will when the plan is updated.

**Question 5****Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Yes.

**Question 6****Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:****Enforcement?** Yes.**Engineering?** Yes.**Education?** Yes.**Economic Incentives?** Yes.**Emergency Response?** Yes, Fire Protection district and Police Department.

We have sprinkler ordinances, which provide tradeoffs.

We work in a collaborative way to accomplish all five, 99% of the time.

All village departments engage stakeholders to achieve consensus.

**Question 7****Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.

**Demographics?** Yes.

**At Risk Populations?** Yes.

**One Size Fits All?** Yes, data does not drive everything we do. We listen to stakeholders and respond accordingly.

The seven village trustees work collaboratively to achieve consensus and the desired outcome.

### Question 8

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Not qualified to answer. The Fire Chief would be the best person to answer this question.

### Question 9

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Not sure.

**A quality of life service?** Yes.

**An element of a sustainable community?** Not sure.

**Fiscally responsible?** Yes.

**An element of community resilience?** Not sure.

**An integral component of community planning and development?** Not sure.

**An effective budgeting tool?** Not sure.

### Question 1

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

To some degree, yes. We are a new community and just starting the process. Interested in collaboration. Secured alternative funding to support processes and mission.

### Question 2

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes/Fire Departments protect community.

**Preventable Injury Risk?** Not yet.

**Crime Risk?** Yes, police department.

**Natural Hazards Risk?** Not yet.

**Terrorism Risk?** Not yet.

**Other Man Made Risk?** Not yet.

### Question 3

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

Combination staffing of career and volunteer staffing.

Take advantage of community resources.

**Question 4**

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes, it's a collaborative effort that's evolving.

**Question 5**

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Not yet, but we are working on it.

**Question 6**

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes fire departments.

**Engineering?** Not sure.

**Education?** Yes, fire departments.

**Economic Incentives?** No.

**Emergency Response?** Yes, police and fire.

No sprinkler ordinances.

**Question 7**

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Not sure.

**Demographics?** Not sure.

**At Risk Populations?** Not sure.

**One Size Fits All?** Not sure.

The fire departments may engage in this type of activity.

**Question 8**

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

NIMS training and teach other village departments.

Continuing education is important.

Expertise in fire science is important.

Knowledge of finance and budgeting is of value.

Collaboration is important.

The fire department is an expensive venture.

**Question 9**

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Not sure.  
**A quality of life service?** Yes.  
**An element of a sustainable community?** Yes.  
**Fiscally responsible?** Yes.  
**An element of community resilience?** No.  
**An integral component of community planning and development?** Yes.  
**An effective budgeting tool?** No.

### Question 1

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes.

### Question 2

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes/Fire Department.  
**Preventable Injury Risk?** Yes, executive safety committee.  
**Crime Risk?** Yes, police department.  
**Natural Hazards Risk?** Yes, through Emergency Operations Plan.  
**Terrorism Risk?** Yes, through Emergency Operations Plan.  
**Other Man Made Risk?** Yes, through Emergency Operations Plan.

### Question 3

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

Combined approach, civilian, sworn, volunteers (CERT Team and Police Explorers).

### Question 4

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

No. But, the police department does participate in the FPD strategic planning process.

### Question 5

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Yes, but it does not involve the Fire Protection District.

### Question 6

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes fire department and police department.  
**Engineering?** Yes, village building department.  
**Education?** Yes, fire and police departments.

<p><b>Economic Incentives?</b> No.</p> <p><b>Emergency Response?</b> Yes, police and fire.</p>
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**Question 7**

<p><b>Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?</b></p>
--

<p><b>Emergency Response Data?</b> Yes. Not sure about Fire Protection District.</p> <p><b>Demographics?</b> Yes. Not sure about Fire Protection District.</p> <p><b>At Risk Populations?</b> Yes. Not sure about Fire Protection District.</p> <p><b>One Size Fits All?</b> No.</p>
--

<p>Village has a safety town attached to the police department.</p>
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**Question 8**

<p><b>What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?</b></p>
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<p>Business administration and fire service specific training gained through the certification process.</p>
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**Question 9**

<p><b>Do you believe that comprehensive multi-hazard community risk reduction is a:</b></p>
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<p><b>Value added service?</b> Yes.</p> <p><b>A quality of life service?</b> Yes.</p> <p><b>An element of a sustainable community?</b> No.</p> <p><b>Fiscally responsible?</b> No.</p> <p><b>An element of community resilience?</b> No.</p> <p><b>An integral component of community planning and development?</b> No.</p> <p><b>An effective budgeting tool?</b> No.</p>
--

**Question 1**

<p><b>Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?</b></p>
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<p>Yes, NIMS and Emergency Operations Plan.</p>
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**Question 2**

<p><b>Which risk categories does the city/village you represent address?</b></p>
--

<p><b>Fire Risk?</b> Yes/Fire Department.</p> <p><b>Preventable Injury Risk?</b> No. Do utilize code red software to communicate to at risk citizenry.</p> <p><b>Crime Risk?</b> Yes, police department.</p> <p><b>Natural Hazards Risk?</b> Yes, through Emergency Operations Plan.</p> <p><b>Terrorism Risk?</b> No.</p> <p><b>Other Man Made Risk?</b> Yes, flood risk reduction.</p>
--



**Question 3**

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

Career within the village. Fire protection District utilizes combination method.

**Question 4**

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes, fire chief took the lead.

**Question 5**

**Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Yes, large amount of work in preparation.

Risk of flooding was an emphasis.

Fire department was a key player in the process.

**Question 6**

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes.

**Engineering?** Yes.

**Education?** Yes.

**Economic Incentives?** Yes.

**Emergency Response?** Yes.

Especially with respect to flood risk reduction.

Adding career fire inspector helped the processes and added value.

Highly rated with respect to flood risk reduction (ISO).

An emphasis on fire safety in the community.

**Question 7**

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.

**Demographics?** Yes.

**At Risk Populations?** Yes.

**One Size Fits All?** No. Not necessarily.

Village utilizes technology (GIS) to map all buildings and data.

Code red software further help with data analysis and dissemination.

Participate in National Night Out every year (Great Opportunity to engage in public education).

**Question 8**

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Finance in the public sector. Different performance indicators than in private sector.  
 Fire Chiefs would benefit from an MPA.  
 Need ability to analyze data and numbers.  
 Public sector has different needs than the private sector. Must understand the drivers and desired outcomes.

**Question 9**

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Not necessarily.  
**A quality of life service?** Yes.  
**An element of a sustainable community?** Yes.  
**Fiscally responsible?** Yes.  
**An element of community resilience?** No.  
**An integral component of community planning and development?** Could be.  
**An effective budgeting tool?** Yes.

Difference between political decisions and professional decisions. Professional decisions are data driven.  
 Government and the fire service are becoming or are professional. Political decisions are far less common today.

**Question 1**

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes, it's a village wide program.  
 Includes outside consultant that provides technical expertise.  
 Believe the cost savings has exceeded \$250,000.  
 People are the focus, internally and externally.  
 Provide safe environment.  
 Applied to populations and risk.  
 Change culture/attitudes to focus on injury prevention.  
 Should be of value to employees and community.  
 Focus on quality training.  
 Use after action reports for continuous improvement.  
 Collaboration between village departments is key aspect.

**Question 2**

**Which risk categories does the city/village you represent address?**

**Fire Risk?** Yes/Fire Department.  
**Preventable Injury Risk?** Yes, big emphasis internally and externally.

**Crime Risk?** Yes, police department.

**Natural Hazards Risk?** Yes.

**Terrorism Risk?** Yes.

**Other Man Made Risk?** Yes.

Developed plan to respond to each. Fire Department takes a lead role in the process. Focus on more internal training.

### Question 3

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

All employees are involved; sworn, civilian, full-time, and part-time.

### Question 4

**Does the fire department that provides services to the city/village you represent participate in the strategic planning process?**

Yes, and fire department has own strategic plan. Strategic plan tied to budget.

### Question 5

**Does the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?**

Yes, public safety initiatives.

### Question 6

**Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:**

**Enforcement?** Yes fire department staff.

**Engineering?** Yes, fire department very involved.

**Education?** Yes, fire and police departments.

**Economic Incentives?** No.

**Emergency Response?** Yes.

### Question 7

**Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?**

**Emergency Response Data?** Yes.

**Demographics?** Yes.

**At Risk Populations?** Yes.

**One Size Fits All?** No, not usually.

Use first three “big time.”

Data is critical. (good data).

Need better metrics to evaluate the fire service.

Data drives the need for services and validates funding requests.

**Question 8**

**What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?**

Fire Science component. Need an education that incorporates statistics and finance.  
Understand data, both good and bad.  
Will add value to the community.

**Question 9**

**Do you believe that comprehensive multi-hazard community risk reduction is a:**

**Value added service?** Yes.

**A quality of life service?** Yes.

**An element of a sustainable community?** Yes. Collaboration and resource allocation.

**Fiscally responsible?** Yes.

**An element of community resilience?** Yes.

**An integral component of community planning and development?** Yes.

**An effective budgeting tool?** Yes.

Fire service needs to focus on prevention and risk reduction.

Fire sprinkler systems and fire alarm systems. Need to ensure operability and monitoring.

Ordinances should support prevention/risk reduction/fire sprinklers/fire alarms/monitoring.

Fire prevention/risk reduction must have a higher standing within the fire service. Not valued within the current culture. Can make changes that are long lasting.

Fire prevention/risk reduction must be funded.

Must be “teeth” in adopted ordinances.

**Question 1**

**Does the city/village you represent engage in a comprehensive multi-hazard community risk reduction strategy?**

Yes.

**Question 2**

**Which risk categories does the city/village you represent address?**

**Fire Risk?** No.

**Preventable Injury Risk?** Yes.

**Crime Risk?** Yes.

**Natural Hazards Risk?** Yes.

**Terrorism Risk?** Yes.

**Other Man Made Risk?** No.

**Question 3**

**What type of staffing methodologies/inter-department collaboration does the city/village you represent utilize to conduct community risk reduction activities?**

Interdepartmental Safety Committee meets monthly. Member of IRMA. Work closely with Fire Protection District, but they are a separate taxing district.
--

**Question 4**

<b>Does the fire department that provides services to the city/village you represent participate in the strategic planning process?</b>
---

No, they are a separate taxing district.
--

**Question 5**

<b>Dose the strategic plan for the city/village you represent include a strategic initiative addressing public safety/community risk reduction?</b>
---

Yes: Objective. Maintain Emergency Management Efforts. Action Steps: Continue training relative to anti-terrorism activities. Maintain Emergency Plan certification. Provide staff training for appropriate emergency management issues Maintain Storm Ready Community status. Participate in exercise opportunities provided by state, county and other jurisdictions. Cross train interdepartmentally with emergency management coordinator training/experience.
--

**Question 6**

<b>Which of the following integrated risk reduction/prevention interventions does the city/village you represent utilize:</b>
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<b>Enforcement?</b> Yes. <b>Engineering?</b> Yes - relative to storm water management. <b>Education?</b> Yes. <b>Economic Incentives?</b> No. <b>Emergency Response?</b> Yes.
---

**Question 7**

<b>Which methodologies does the city/village you represent utilize to develop community risk reduction interventions?</b>
---

<b>Emergency Response Data?</b> Yes. <b>Demographics?</b> Yes. <b>At Risk Populations?</b> Yes. <b>One Size Fits All?</b> No.
--

**Question 8**

<b>What do you believe are the essential skills/higher education disciplines necessary for preparing the fire service to engage in comprehensive multi-hazard community risk reduction activities?</b>
--

We do not have a fire department under our jurisdiction.
--

**Question 9**

<b>Do you believe that comprehensive multi-hazard community risk reduction is a:</b>
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**Value added service?** No.

**A quality of life service?** No.

**An element of a sustainable community?** Yes.

**Fiscally responsible?** Yes.

**An element of community resilience?** Yes.

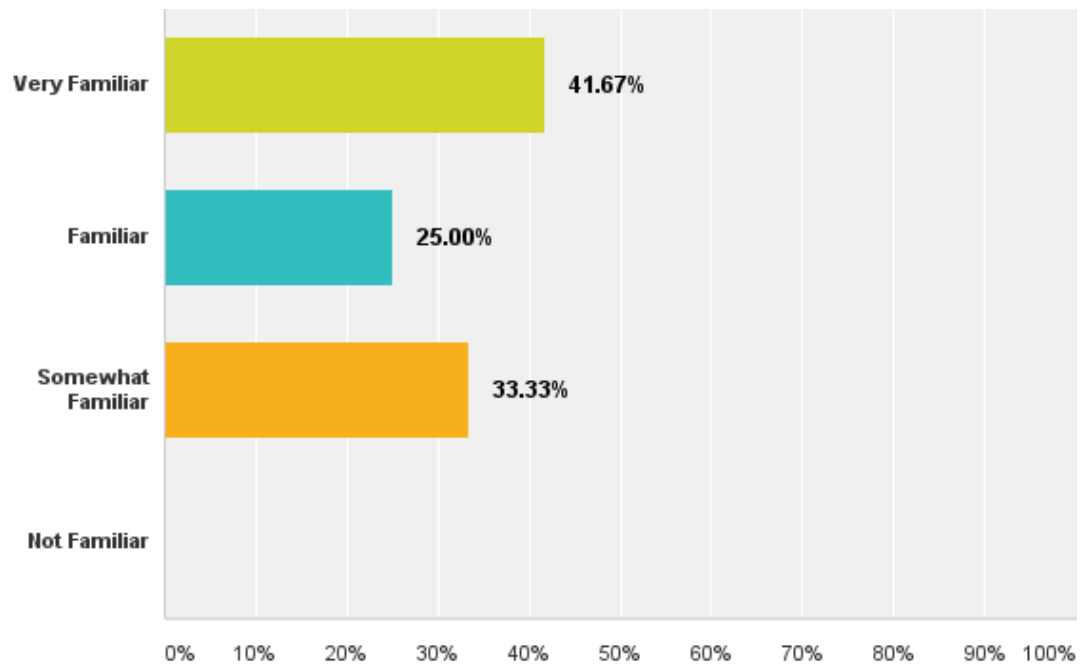
**An integral component of community planning and development?** Yes.

**An effective budgeting tool?** No.

## Appendix W

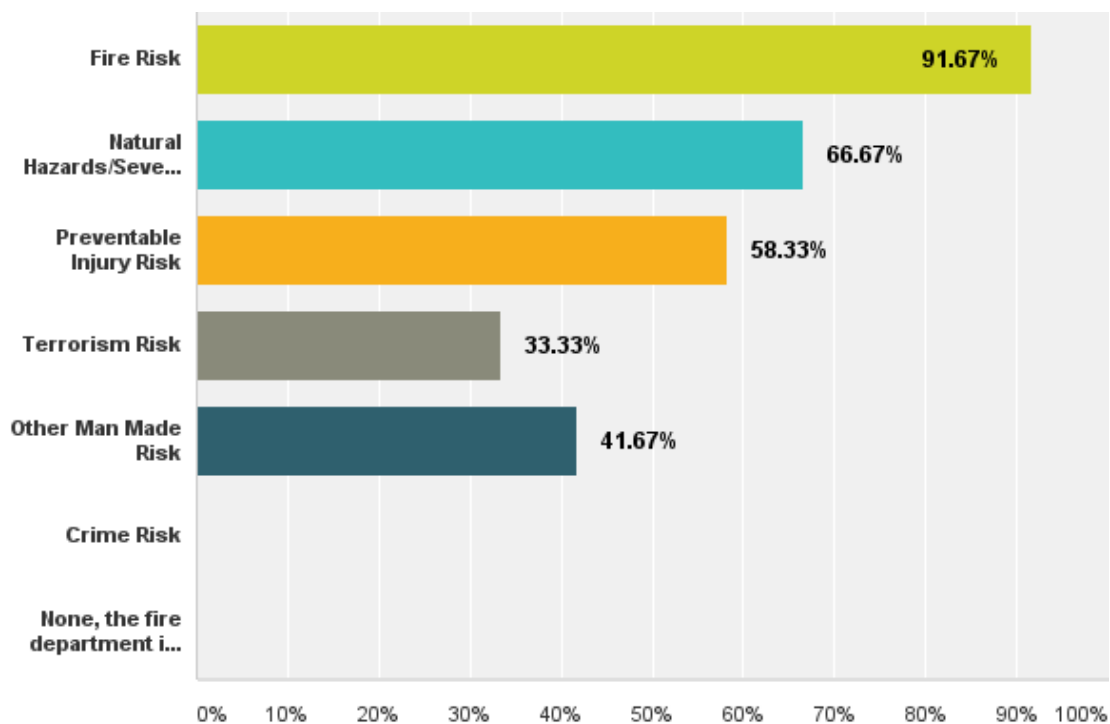
### Fire Chief Questionnaire Responses

**Q1: How familiar are you with the comprehensive multi-hazard community risk reduction philosophy?**



Answer Choices	Responses	
Very Familiar	41.67%	5
Familiar	25.00%	3
Somewhat Familiar	33.33%	4
Not Familiar	0.00%	0
<b>Total</b>		<b>12</b>

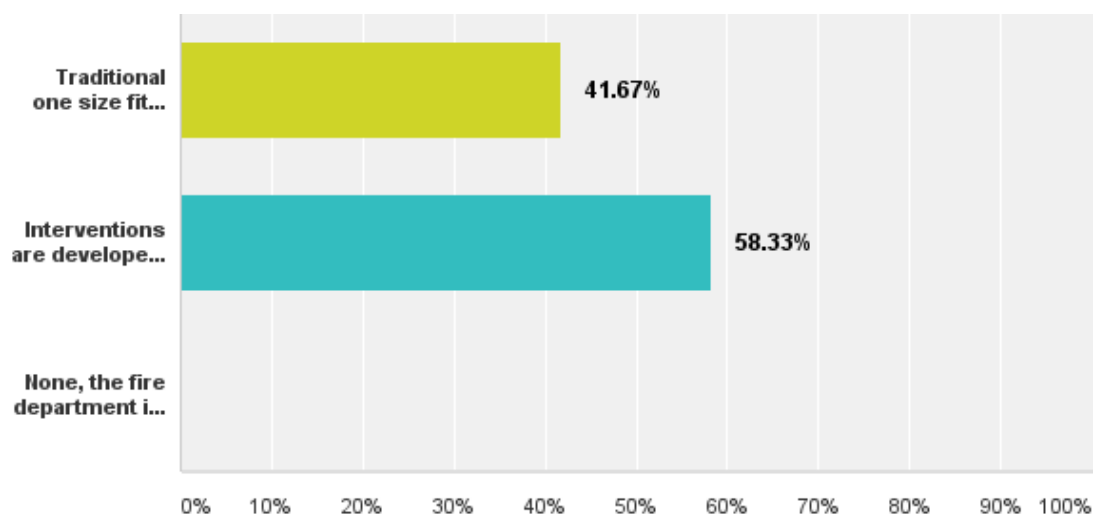
**Q2: Which of the following comprehensive multi-hazard community risk reduction categories does the fire department you represent address?**



Answer Choices	Responses
Fire Risk	91.67% 11
Natural Hazards/Severe Weather Risk	66.67% 8
Preventable Injury Risk	58.33% 7
Terrorism Risk	33.33% 4
Other Man Made Risk	41.67% 5
Crime Risk	0.00% 0
None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.	0.00% 0
<b>Total Respondents: 12</b>	

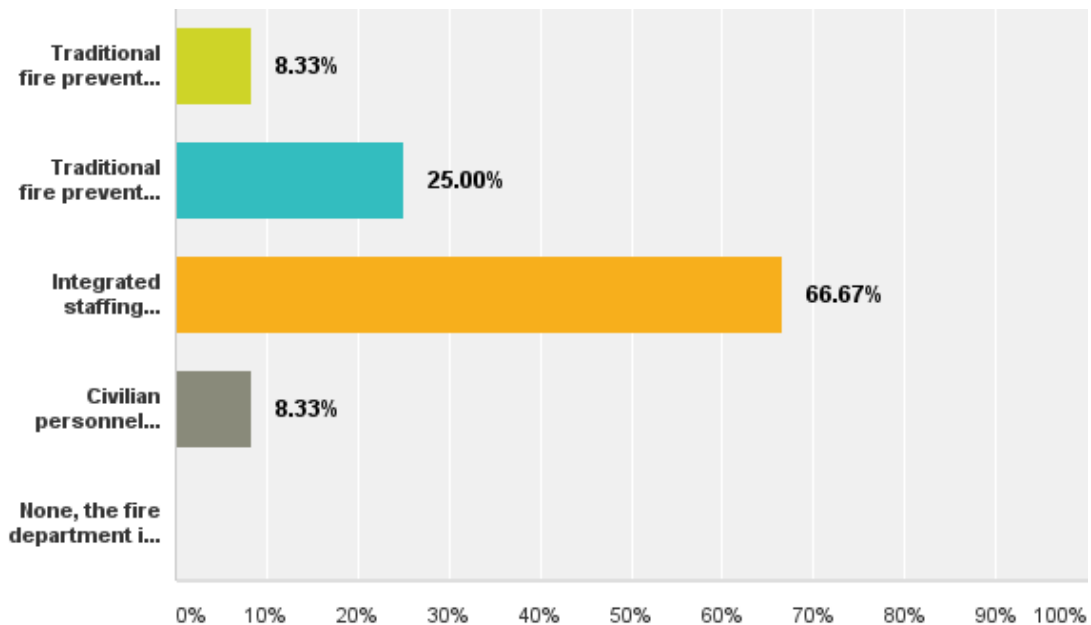


**Q3: What methodologies are utilized by the fire department you represent to develop community risk reduction interventions?**



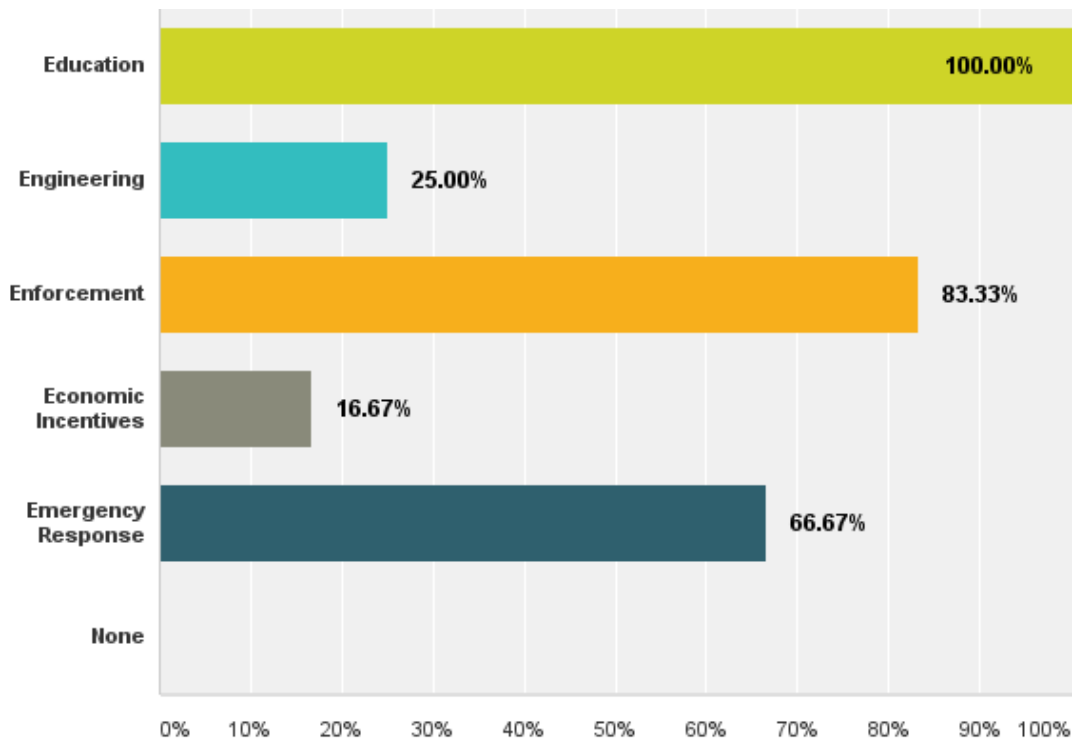
Answer Choices	Responses
Traditional one size fits all canned fire prevention activities, which are delivered community wide.	41.67% 5
Interventions are developed based on community emergency response data, demographics, and at risk populations, which are delivered at the fire station level.	58.33% 7
None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.	0.00% 0
Total Respondents: 12	

**Q4: What type of staffing methodologies does the fire department you represent utilize to conduct community risk reduction activities?**



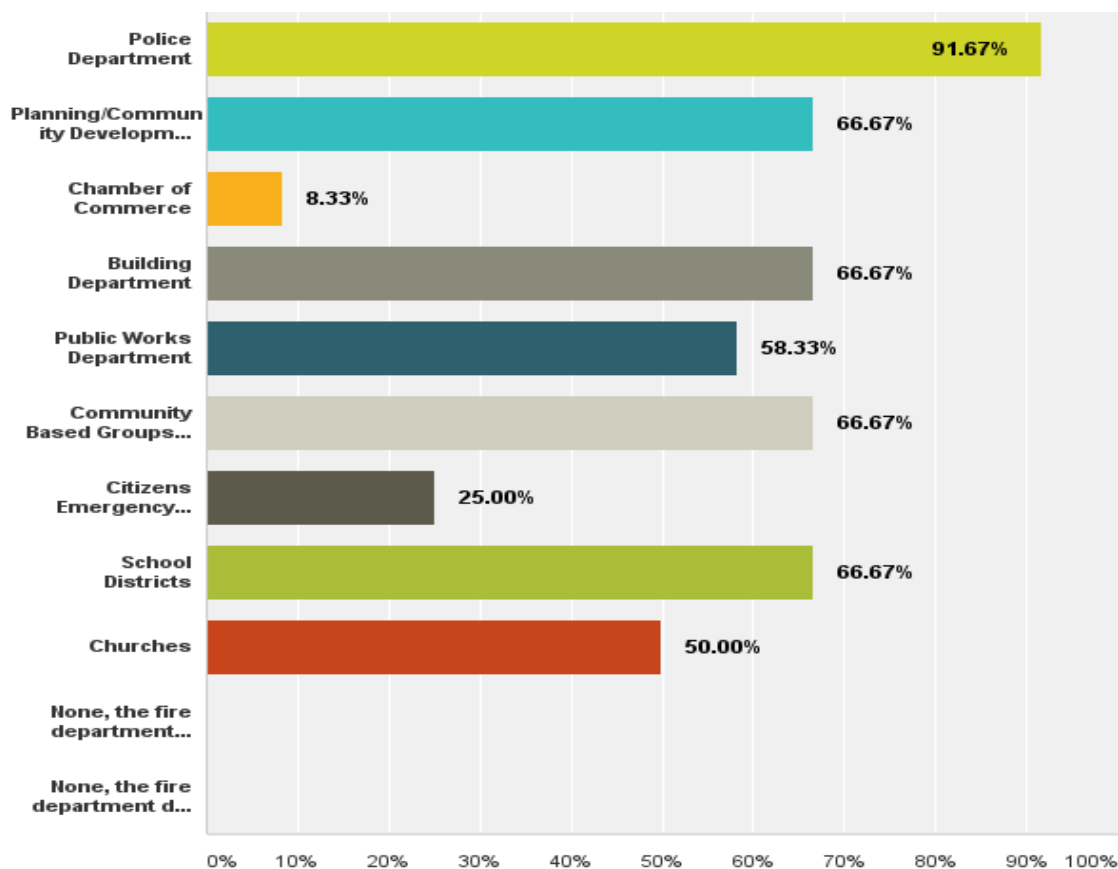
Answer Choices	Responses	
Traditional fire prevention bureau, staffed with sworn personnel, separate from the operations division.	8.33%	1
Traditional fire prevention bureau, staffed with civilian personnel, separate from the operations division.	25.00%	3
Integrated staffing methodology, sworn operations staff engaged in community risk reduction activities at the community level, in both the fire prevention bureau and the operations division.	66.67%	8
Civilian personnel outside of the fire department conduct community risk reduction activities.	8.33%	1
None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.	0.00%	0
<b>Total Respondents: 12</b>		

**Q5: Which of the following integrated risk reduction prevention interventions does the fire department you represent utilize?**



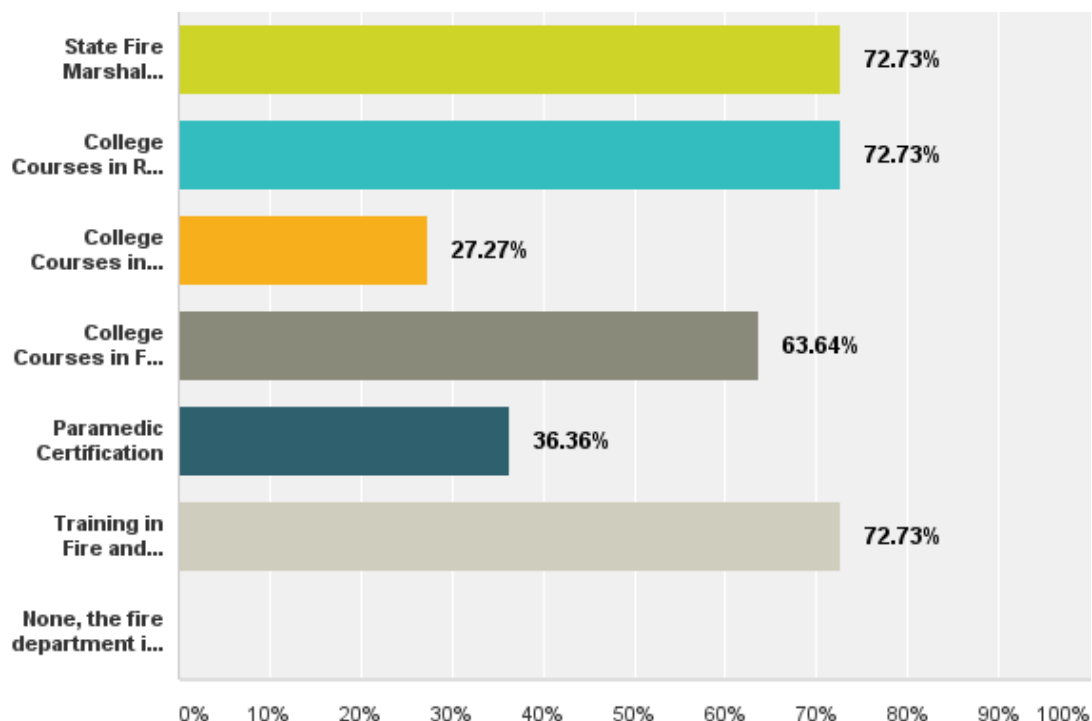
Answer Choices	Responses
Education	100.00% 12
Engineering	25.00% 3
Enforcement	83.33% 10
Economic Incentives	16.67% 2
Emergency Response	66.67% 8
None	0.00% 0
<b>Total Respondents: 12</b>	

**Q6: Which of the following entities does the fire department you represent collaborate with to accomplish comprehensive multi-hazard community risk reduction?**

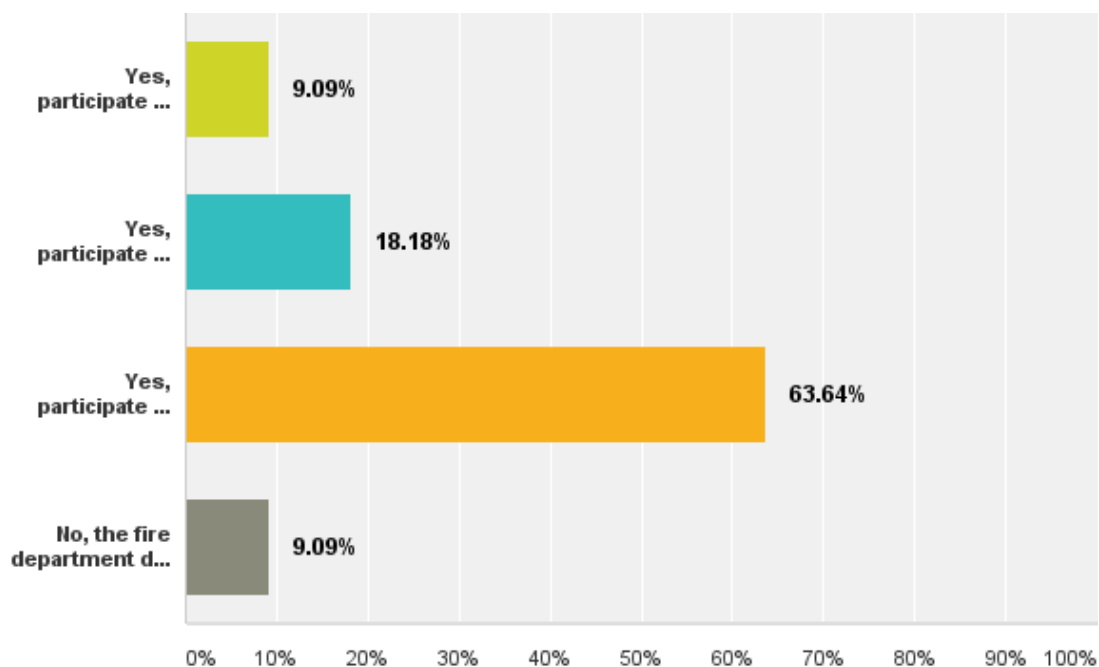


Answer Choices	Responses
Police Department	91.67% 11
Planning/Community Development Department	66.67% 8
Chamber of Commerce	8.33% 1
Building Department	66.67% 8
Public Works Department	58.33% 7
Community Based Groups (Home Owners Associations/Retirement Clubs/Social Clubs)	66.67% 8
Citizens Emergency Response Team/Fire Corps	25.00% 3
School Districts	66.67% 8
Churches	50.00% 6
None, the fire department conducts comprehensive multi-hazard community risk reduction activities independently.	0.00% 0
None, the fire department does not engage in comprehensive community risk reduction activities.	0.00% 0
<b>Total Respondents: 12</b>	

**Q7: Which of the following do you believe are essential elements of preparing fire service personnel to engage effectively in comprehensive multi-hazard community risk reduction activities?**

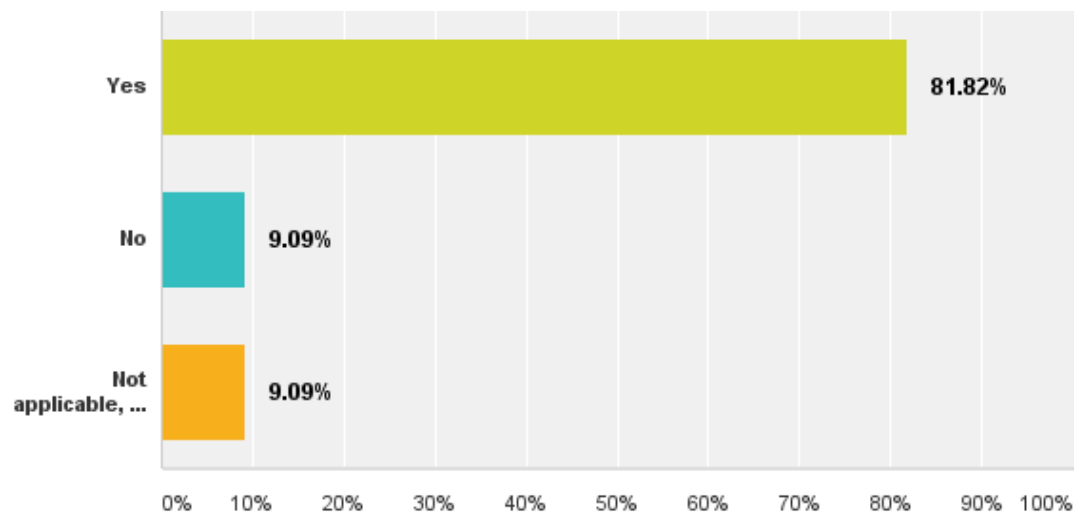


Answer Choices	Responses
State Fire Marshal Certifications	72.73% 8
College Courses in Risk Reduction Methodologies	72.73% 8
College Courses in Public or Business Administration	27.27% 3
College Courses in Fire Science	63.64% 7
Paramedic Certification	36.36% 4
Training in Fire and Building Code Application	72.73% 8
None, the fire department is not engaged in comprehensive multi-hazard community risk reduction.	0.00% 0
<b>Total Respondents: 11</b>	

**Q8: Does the fire department you represent participate in a strategic planning process?**

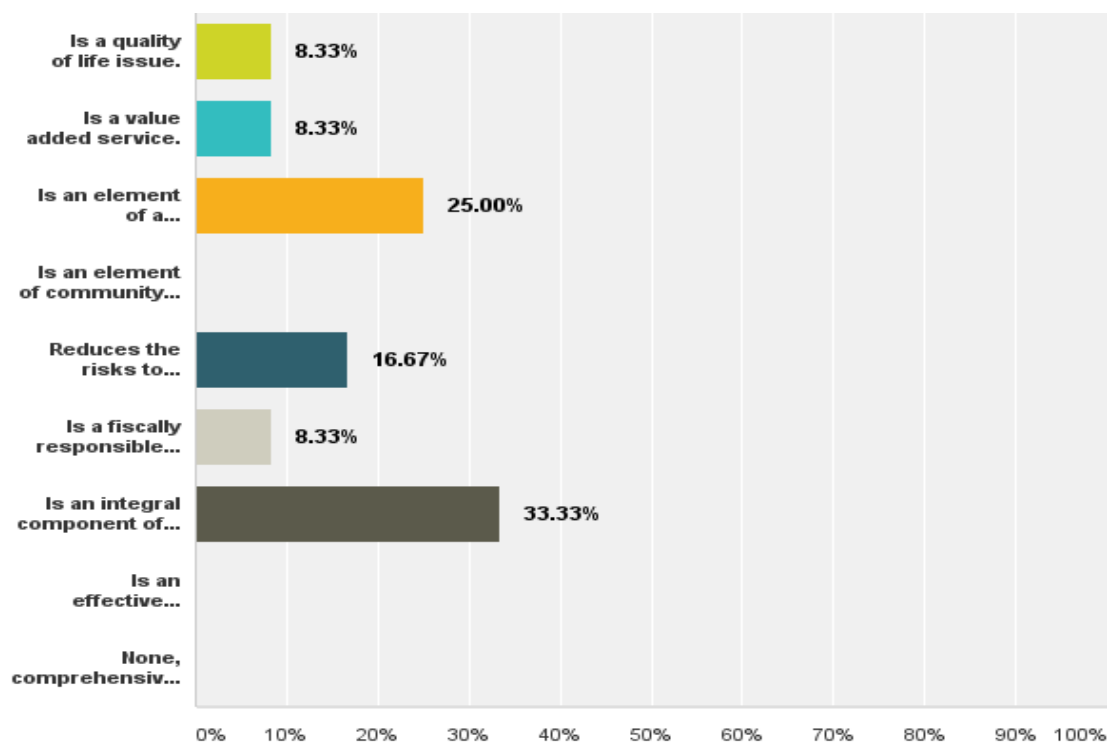
Answer Choices	Responses	
Yes, participate in the strategic planning process for the fire department.	9.09%	1
Yes, participate in the strategic planning process for the community.	18.18%	2
Yes, participate in the strategic planning process for the community and the fire department.	63.64%	7
No, the fire department does not participate in the strategic planning process.	9.09%	1
<b>Total</b>		<b>11</b>

**Q9: Does the strategic plan contain a strategic initiative related to public safety and community risk reduction?**



Answer Choices	Responses	
Yes	81.82%	9
No	9.09%	1
Not applicable, do not have a strategic plan	9.09%	1
<b>Total</b>		<b>11</b>

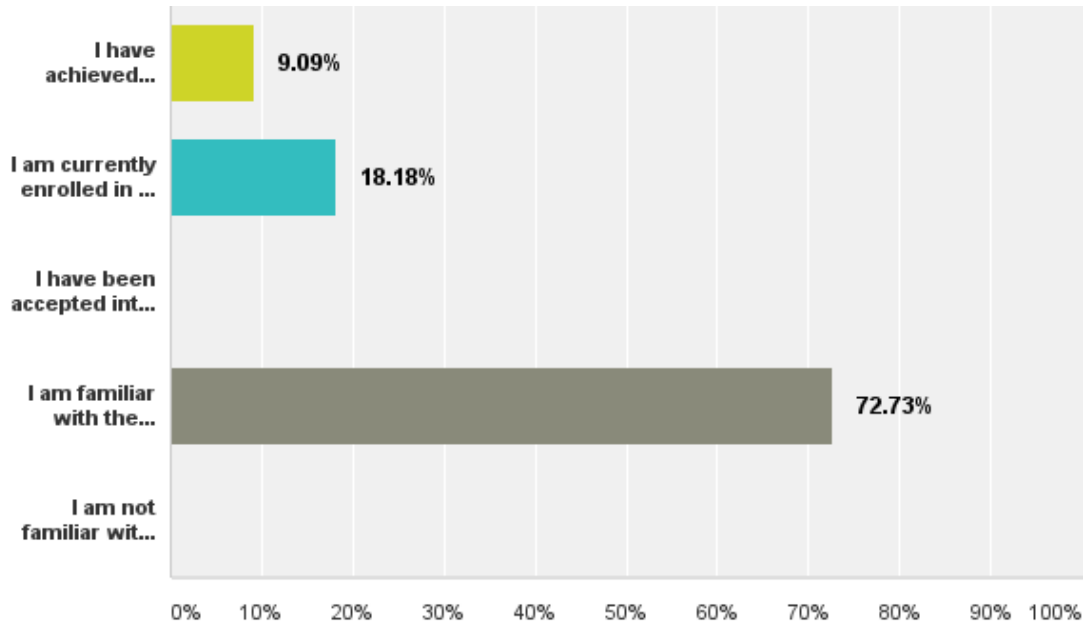
**Q10: Which of the following do you believe are benefits of engaging in a comprehensive multi-hazard community risk reduction strategy?**



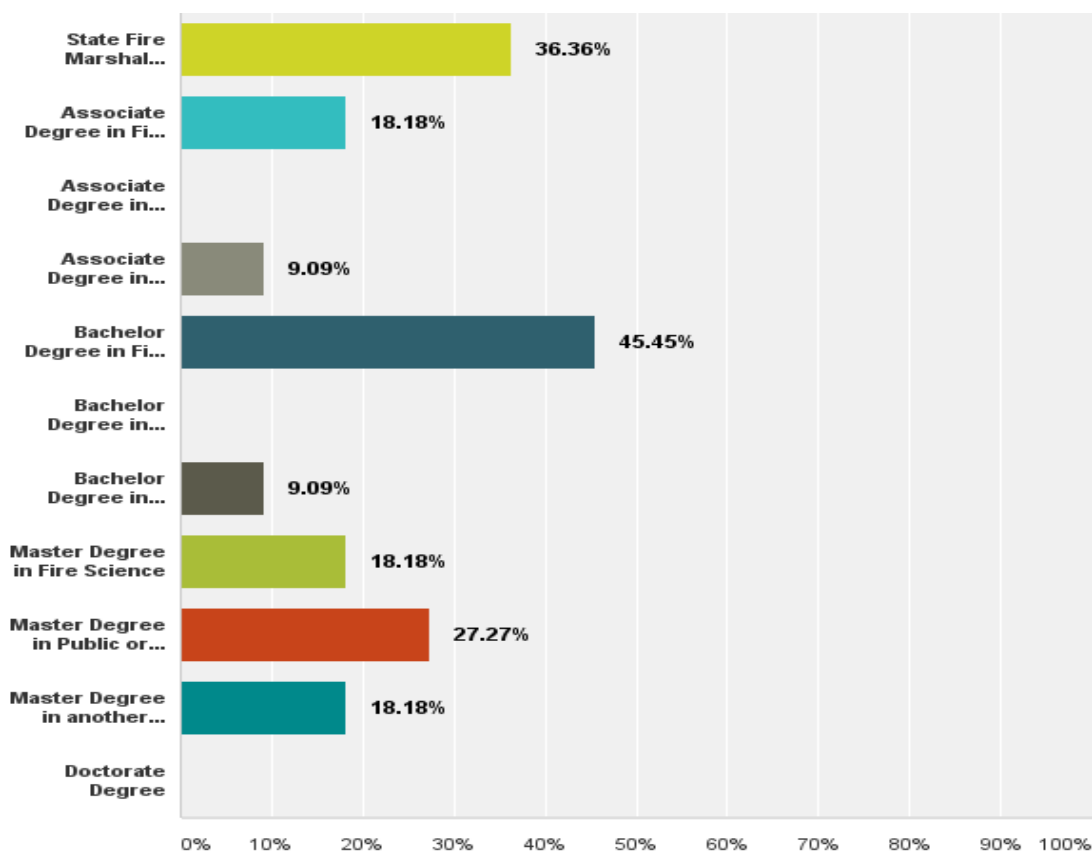
Answer Choices	Responses	
Is a quality of life issue.	8.33%	1
Is a value added service.	8.33%	1
Is an element of a sustainable community.	25.00%	3
Is an element of community resilience.	0.00%	0
Reduces the risks to firefighters/increases firefighter safety.	16.67%	2
Is a fiscally responsible strategy.	8.33%	1
Is an integral component of community planning and development.	33.33%	4
Is an effective budgeting tool.	0.00%	0
None, comprehensive multi-hazard community risk reduction philosophies are not beneficial.	0.00%	0
<b>Total</b>		<b>12</b>



**Q11: With respect to the Executive Fire Officer Program which of the following most accurately reflects your status:**



Answer Choices	Responses
I have achieved Executive Fire Officer Status	9.09% 1
I am currently enrolled in the Executive Fire Officer Program	18.18% 2
I have been accepted into the Executive Fire Officer Program, but have not started the program	0.00% 0
I am familiar with the Executive Fire Officer Program	72.73% 8
I am not familiar with the Executive Fire Officer Program	0.00% 0
<b>Total</b>	<b>11</b>

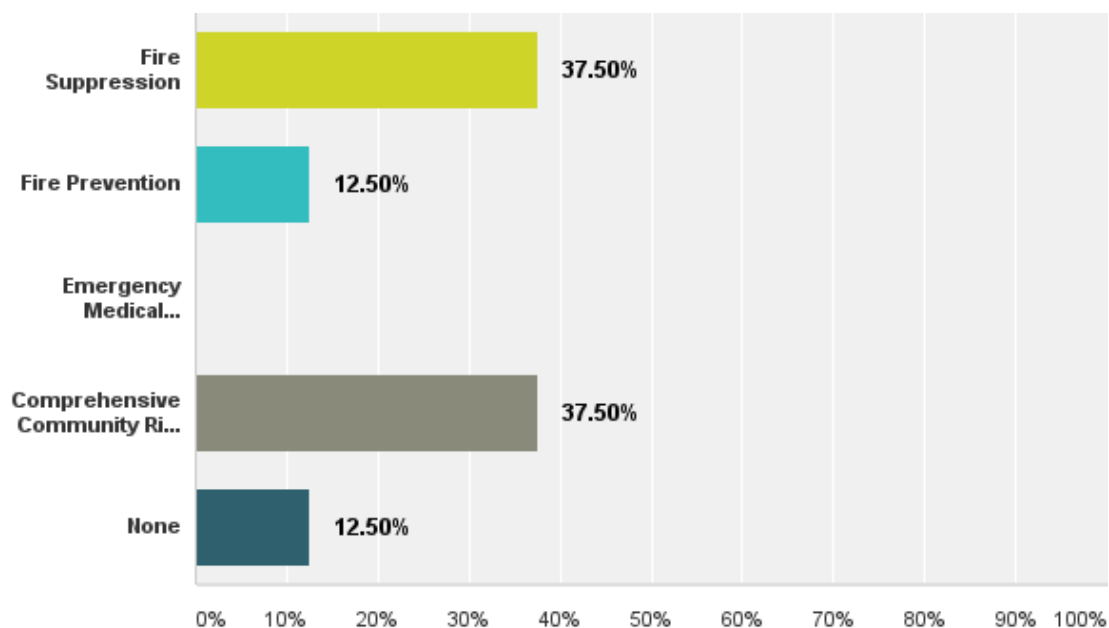
**Q12: Which of the following most accurately reflects your educational status?**

Answer Choices	Responses	
State Fire Marshal Certification	36.36%	4
Associate Degree in Fire Science	18.18%	2
Associate Degree in Public or Business Administration	0.00%	0
Associate Degree in another discipline	9.09%	1
Bachelor Degree in Fire Science	45.45%	5
Bachelor Degree in Public or Business Administration	0.00%	0
Bachelor Degree in another discipline	9.09%	1
Master Degree in Fire Science	18.18%	2
Master Degree in Public or Business Administration	27.27%	3
Master Degree in another discipline	18.18%	2
Doctorate Degree	0.00%	0
Total Respondents: 11		

## Appendix X

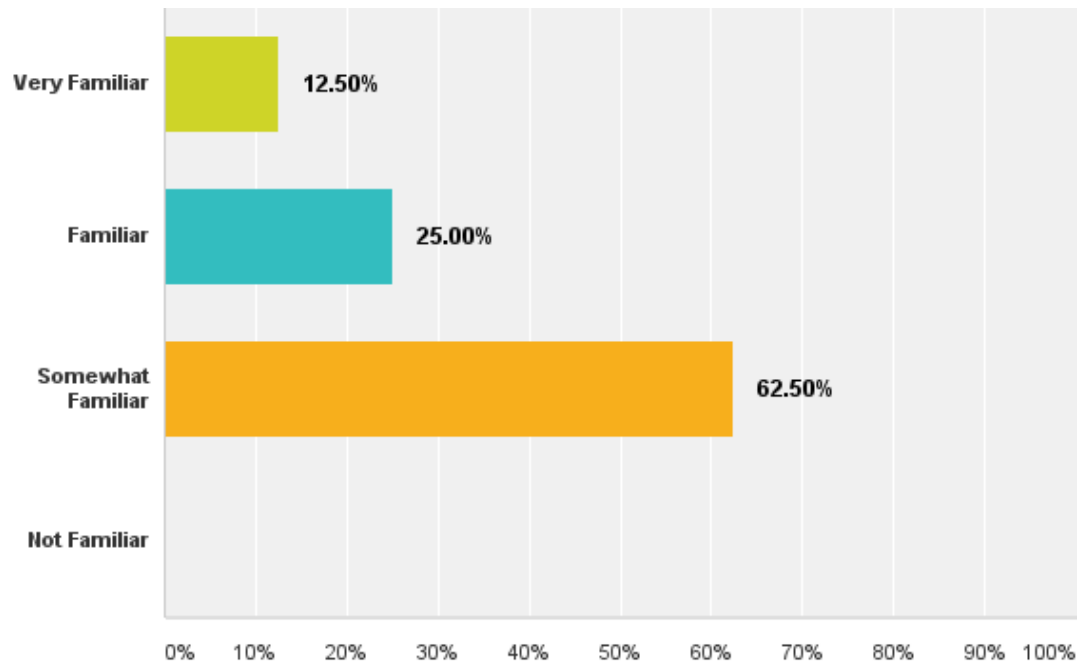
### Local Community College Questionnaire Responses

**Q1: In your opinion, what is the most important concept covered in a fire science associate degree program?**



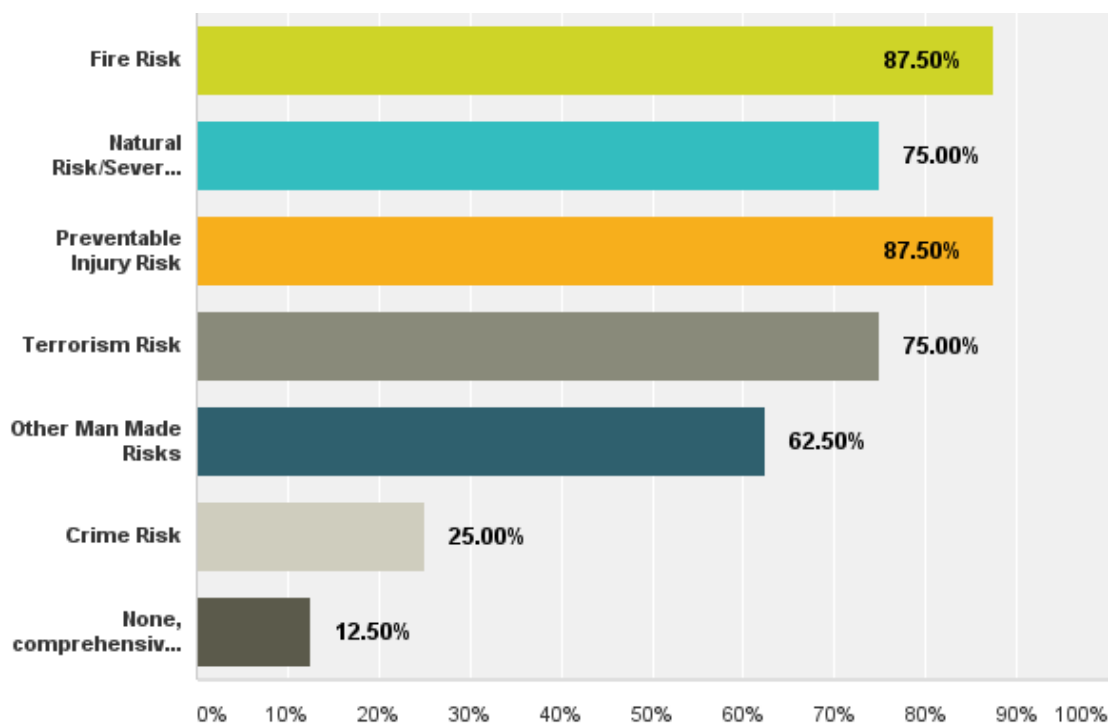
Answer Choices	Responses	
Fire Suppression	37.50%	3
Fire Prevention	12.50%	1
Emergency Medical Services	0.00%	0
Comprehensive Community Risk Reduction and Prevention	37.50%	3
None	12.50%	1
<b>Total</b>		<b>8</b>

**Q2: How familiar are you with the comprehensive multi-hazard community risk reduction methodology?**



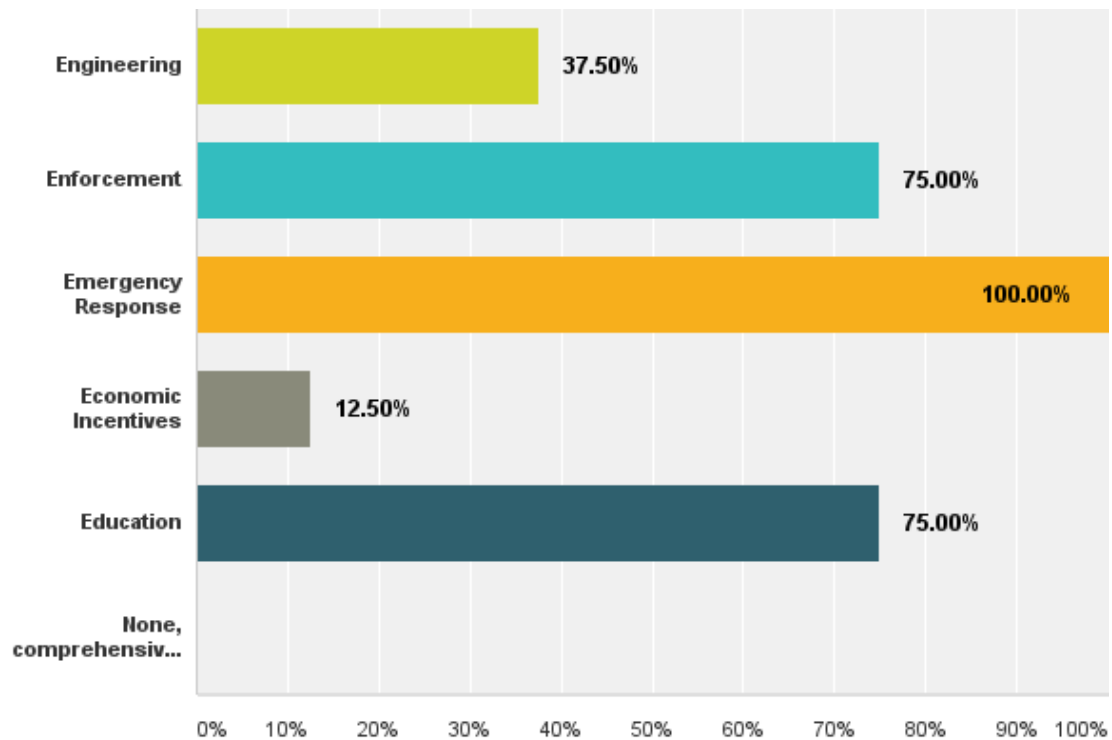
Answer Choices	Responses	
Very Familiar	12.50%	1
Familiar	25.00%	2
Somewhat Familiar	62.50%	5
Not Familiar	0.00%	0
<b>Total</b>		<b>8</b>

**Q3: With respect to comprehensive multi-hazard community risk reduction methodology, which of the following risk categories does the community college you represent include in the fire science degree curriculum?**



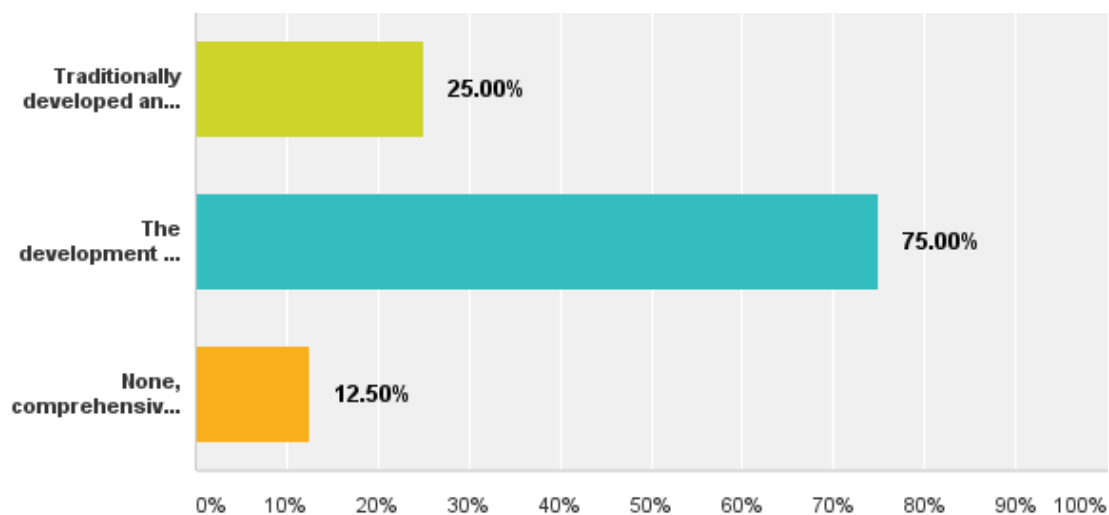
Answer Choices	Responses
Fire Risk	87.50% 7
Natural Risk/Sever Weather Risk	75.00% 6
Preventable Injury Risk	87.50% 7
Terrorism Risk	75.00% 6
Other Man Made Risks	62.50% 5
Crime Risk	25.00% 2
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	12.50% 1
<b>Total Respondents: 8</b>	

**Q4: Which of the following risk reduction and prevention intervention theories does the college you represent include within the fire science degree curriculum?**



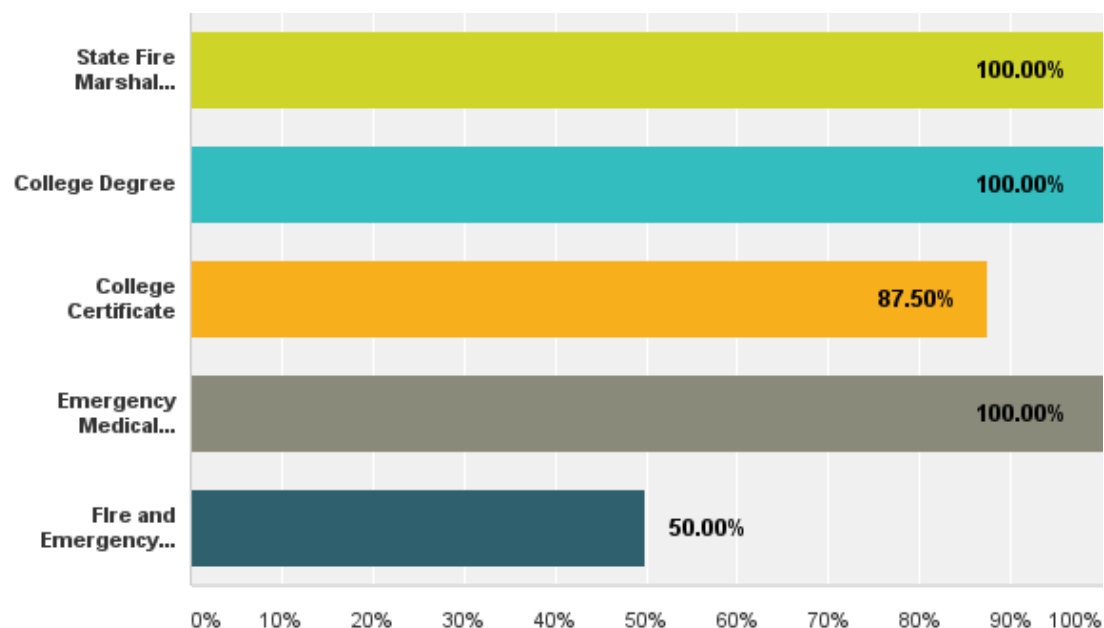
Answer Choices	Responses
Engineering	37.50% 3
Enforcement	75.00% 6
Emergency Response	100.00% 8
Economic Incentives	12.50% 1
Education	75.00% 6
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	0.00% 0
<b>Total Respondents: 8</b>	

**Q5: Which of the following risk reduction intervention development methodologies are covered within the curriculum of the fire science degree program you represent?**



Answer Choices	Responses	
Traditionally developed and administered fire prevention programs delivered community wide.	25.00%	2
The development of risk reduction interventions based on community emergency response data, demographics, and at risk populations.	75.00%	6
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	12.50%	1
<b>Total Respondents: 8</b>		

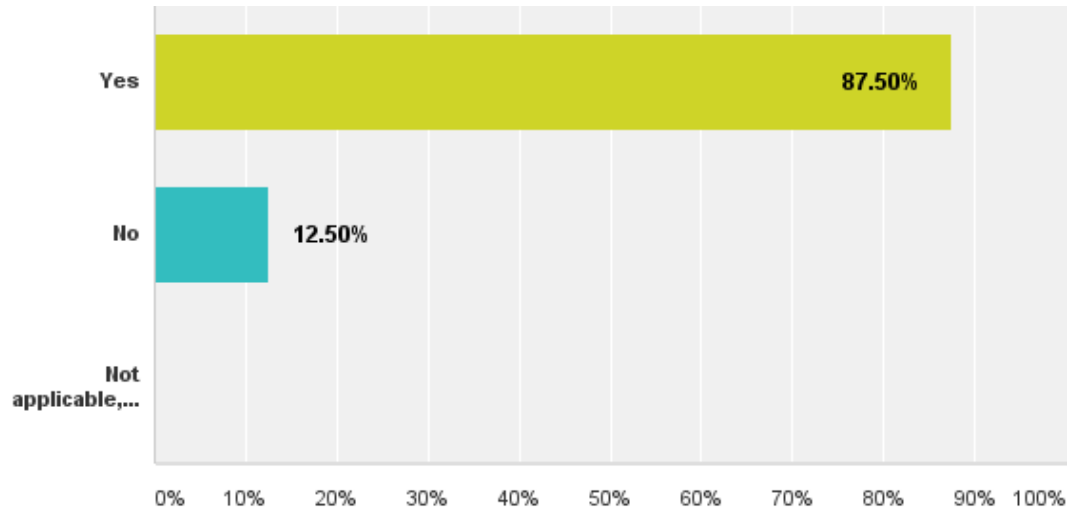
**Q6: Which of the following are components of the fire science program you represent?**



Answer Choices	Responses	
State Fire Marshal Certification	100.00%	8
College Degree	100.00%	8
College Certificate	87.50%	7
Emergency Medical Technician Certification	100.00%	8
Fire and Emergency Services Higher Education (FESHE) approved curriculum	50.00%	4
<b>Total Respondents: 8</b>		

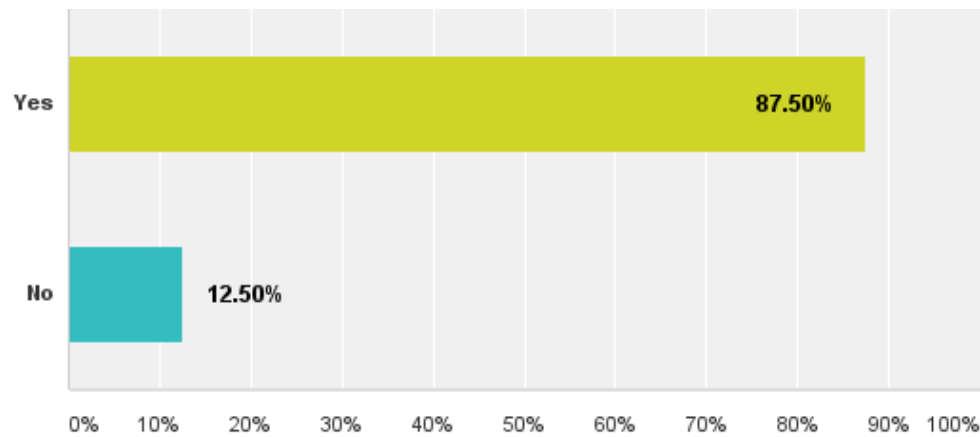


**Q7: Does the fire science degree curriculum at the community college you represent emphasize the relationship between risk reduction/prevention activities and emergency response operations?**



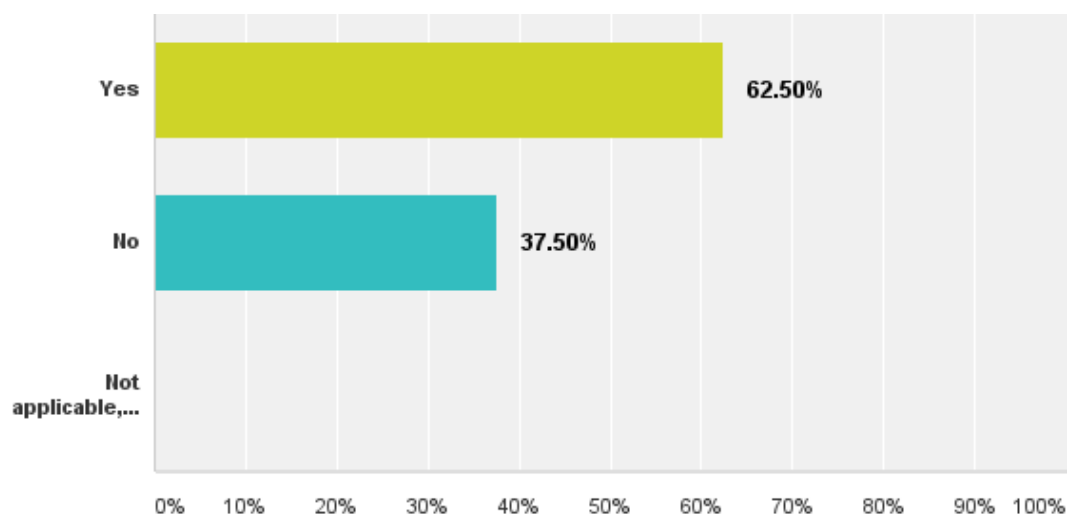
Answer Choices	Responses
Yes	87.50% 7
No	12.50% 1
Not applicable, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	0.00% 0
<b>Total</b>	<b>8</b>

**Q8: Does the fire science degree curriculum at the community college you represent include an overview of the strategic planning process?**



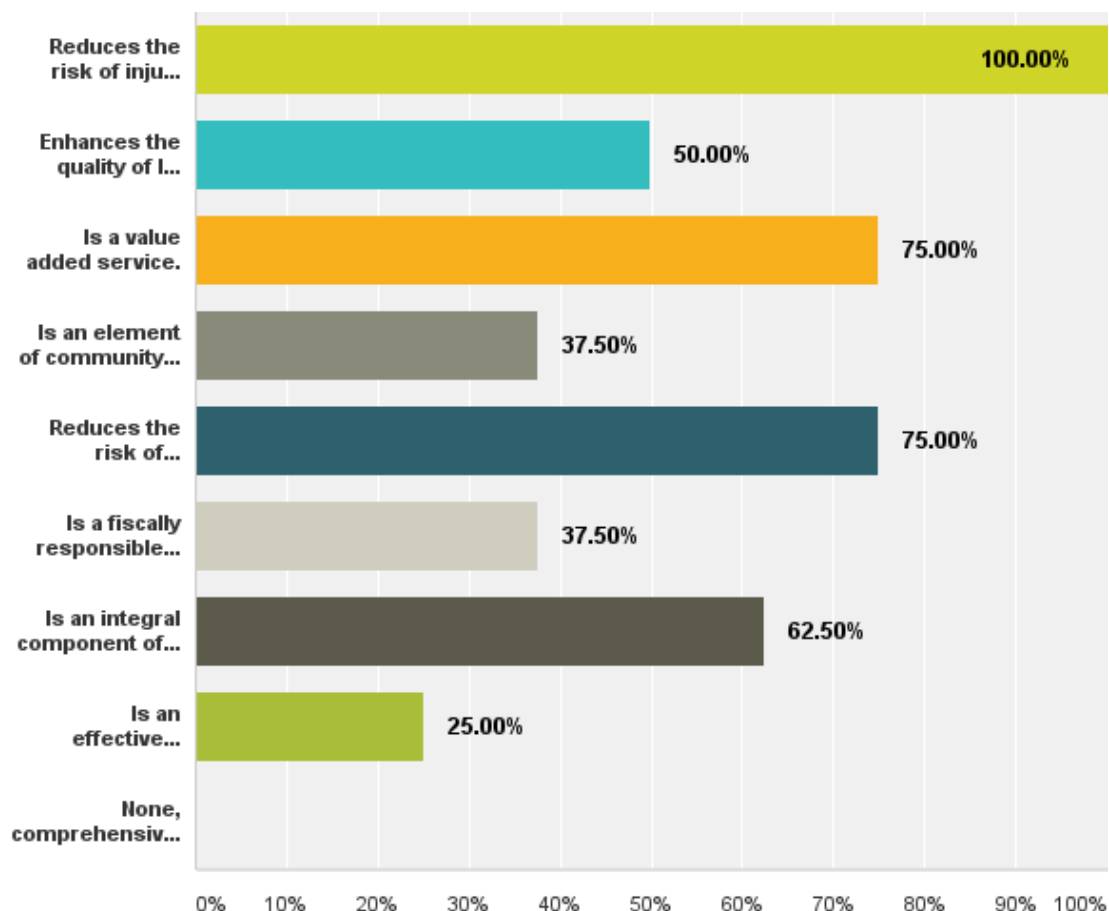
Answer Choices	Responses	
Yes	87.50%	7
No	12.50%	1
Total		8

**Q9: Does the fire science degree curriculum at the community college you represent include community risk analysis based on community emergency response data, demographics, and at risk populations?**



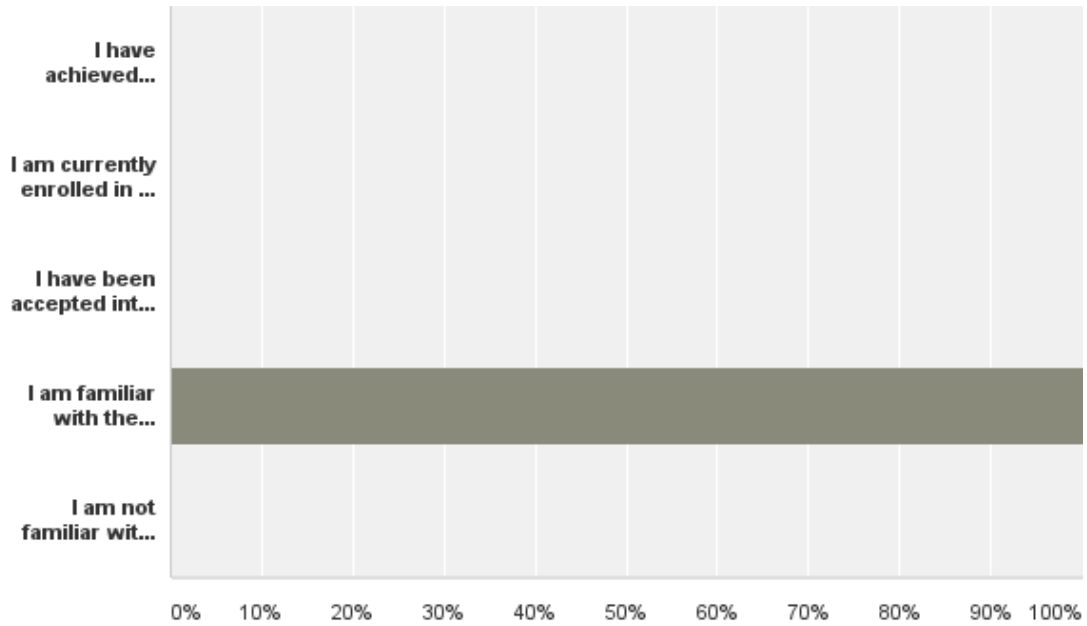
Answer Choices	Responses	
Yes	62.50%	5
No	37.50%	3
Not applicable, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	0.00%	0
<b>Total</b>		<b>8</b>

**Q10: Which of the following do you believe are benefits of including comprehensive multi-hazard community risk reduction strategy within the fire science degree program curriculum?**

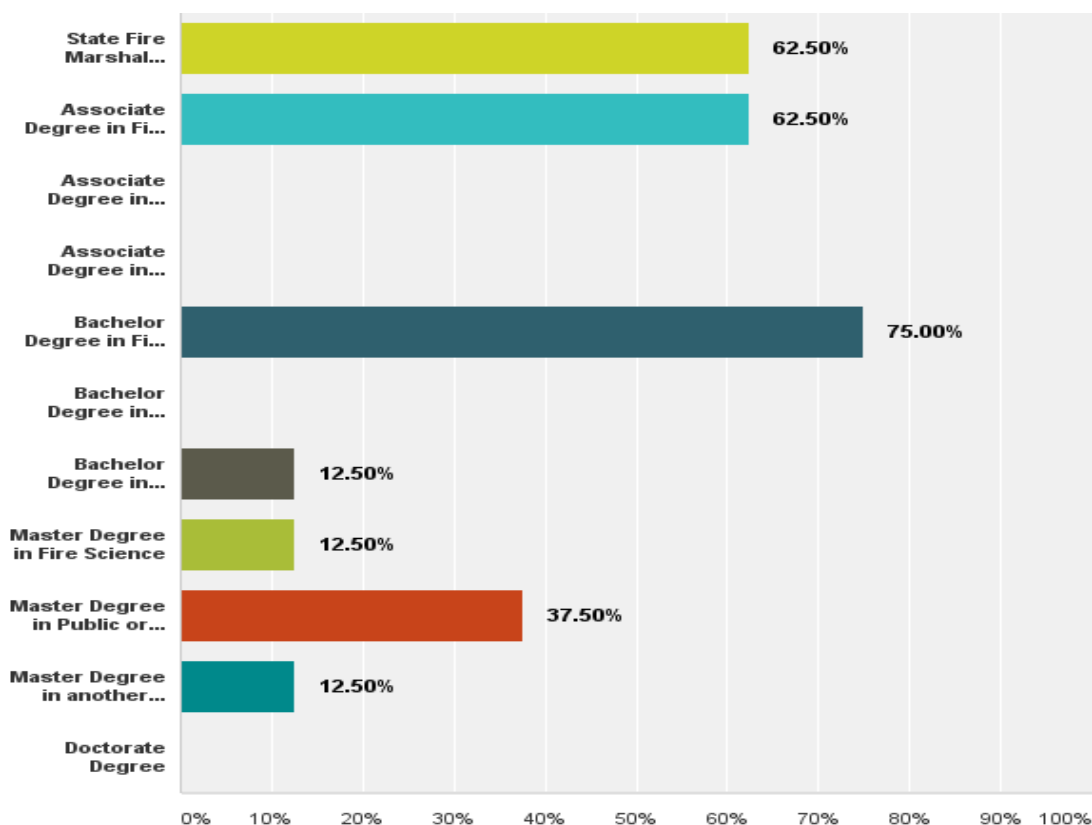


Answer Choices	Responses
Reduces the risk of injury, death, and property loss.	100.00% 8
Enhances the quality of life within the community.	50.00% 4
Is a value added service.	75.00% 6
Is an element of community resilience.	37.50% 3
Reduces the risk of firefighter injury and death.	75.00% 6
Is a fiscally responsible strategy.	37.50% 3
Is an integral component of community planning and development.	62.50% 5
Is an effective budgeting tool.	25.00% 2
None, comprehensive multi-hazard community risk reduction philosophies should not be included in the fire science degree curriculum.	0.00% 0
<b>Total Respondents: 8</b>	

**Q11: With respect to the Executive Fire Officer Program, which of the following most accurately reflect your status?**



Answer Choices	Responses
I have achieved Executive Fire Officer Status.	0.00% 0
I am currently enrolled in the executive Fire Officer Program.	0.00% 0
I have been accepted into the Executive Fire Officer Program, but have not started the program.	0.00% 0
I am familiar with the Executive Fire Officer Program.	100.00% 8
I am not familiar with the Executive Fire Officer Program.	0.00% 0
<b>Total</b>	<b>8</b>

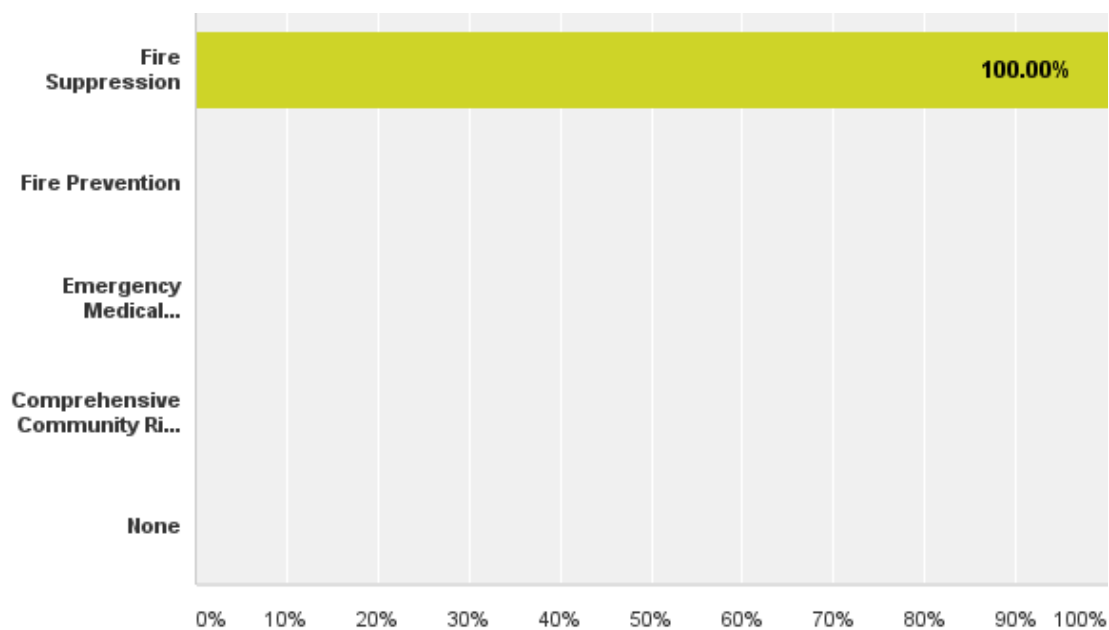
**Q12: Which of the following most accurately reflects your educational status?**

Answer Choices	Responses	
State Fire Marshal Certification	62.50%	5
Associate Degree in Fire Science	62.50%	5
Associate Degree in Public or Business Administration	0.00%	0
Associate Degree in another discipline	0.00%	0
Bachelor Degree in Fire Science	75.00%	6
Bachelor Degree in Public or Business Administration	0.00%	0
Bachelor Degree in another discipline	12.50%	1
Master Degree in Fire Science	12.50%	1
Master Degree in Public or Business Administration	37.50%	3
Master Degree in another discipline	12.50%	1
Doctorate Degree	0.00%	0
<b>Total Respondents: 8</b>		

## Appendix Y

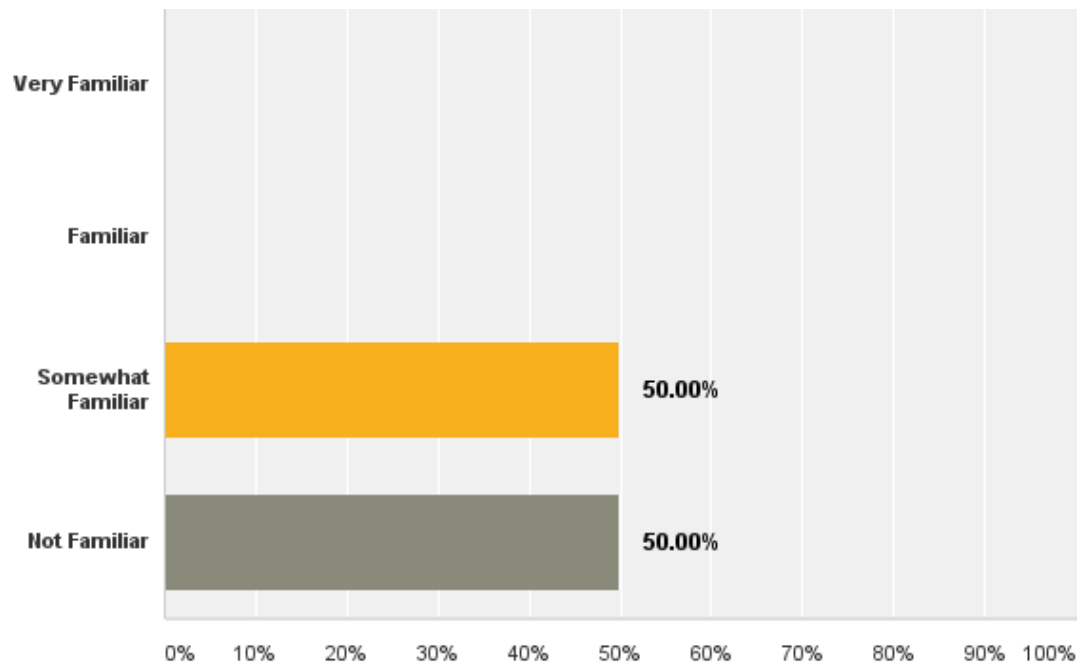
### Regional Community College Questionnaire Responses

**Q1: In your opinion, what is the most important concept covered in a fire science associate degree program?**



Answer Choices	Responses
Fire Suppression	100.00% 2
Fire Prevention	0.00% 0
Emergency Medical Services	0.00% 0
Comprehensive Community Risk Reduction and Prevention	0.00% 0
None	0.00% 0
<b>Total</b>	<b>2</b>

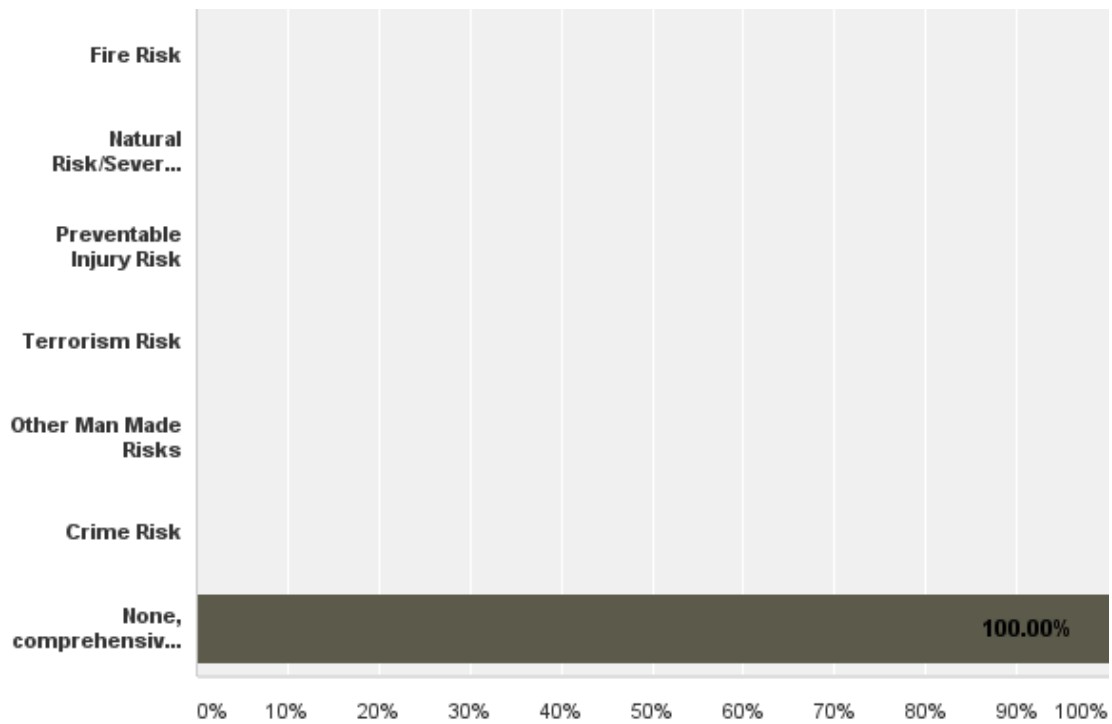
**Q2: How familiar are you with the comprehensive multi-hazard community risk reduction methodology?**



Answer Choices	Responses	
Very Familiar	0.00%	0
Familiar	0.00%	0
Somewhat Familiar	50.00%	1
Not Familiar	50.00%	1
Total		2

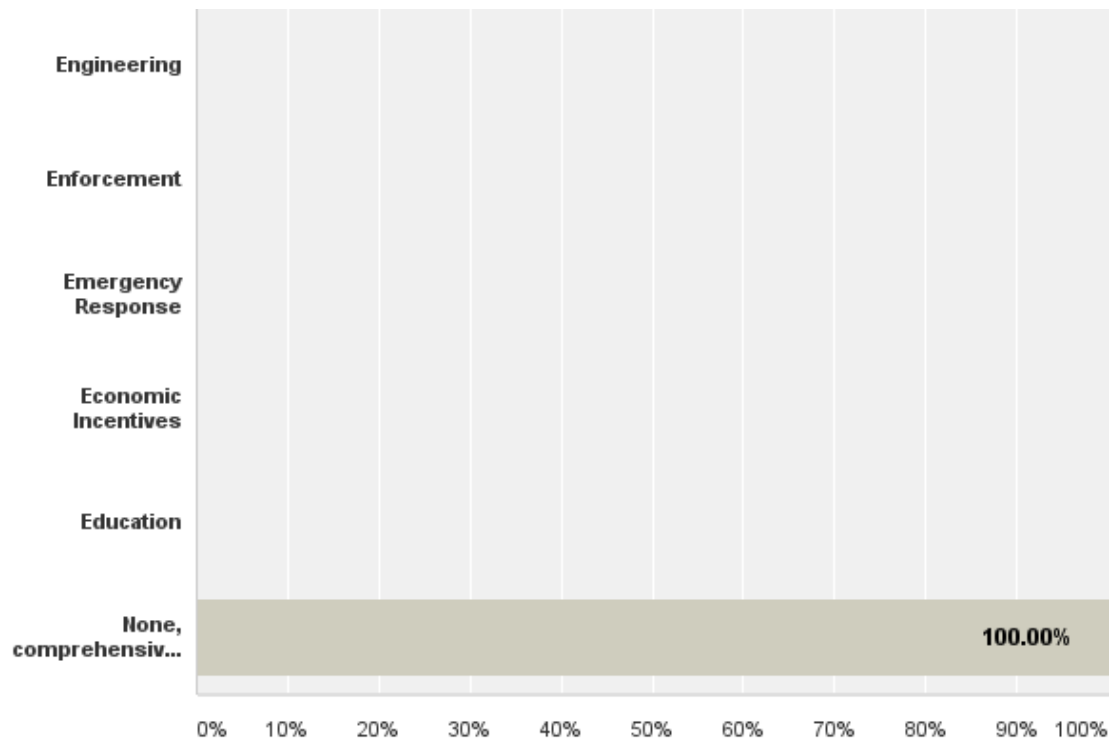


**Q3: With respect to comprehensive multi-hazard community risk reduction methodology, which of the following risk categories does the community college you represent include in the fire science degree curriculum?**



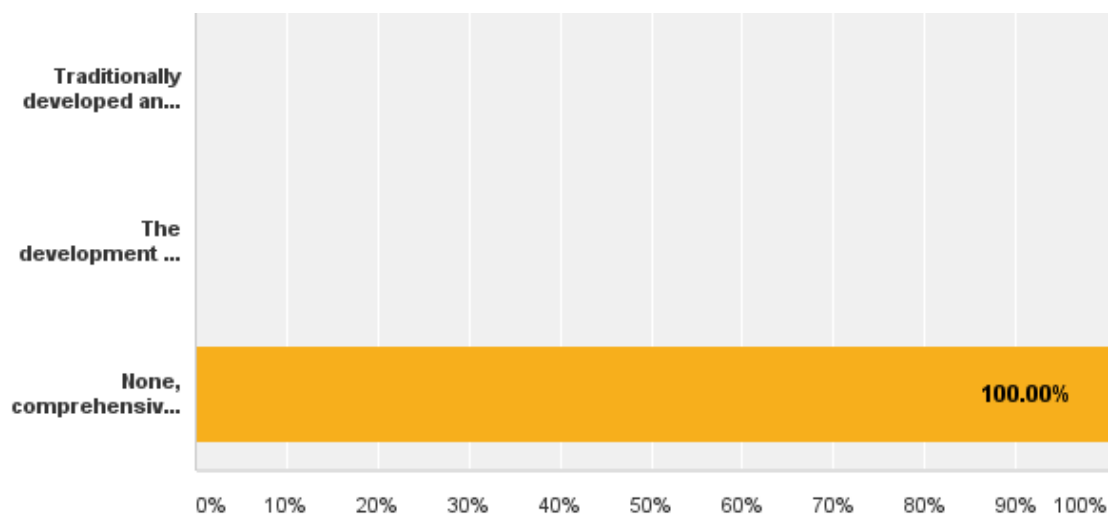
Answer Choices	Responses
Fire Risk	0.00% 0
Natural Risk/Sever Weather Risk	0.00% 0
Preventable Injury Risk	0.00% 0
Terrorism Risk	0.00% 0
Other Man Made Risks	0.00% 0
Crime Risk	0.00% 0
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	100.00% 1
<b>Total Respondents: 1</b>	

**Q4: Which of the following risk reduction and prevention intervention theories does the college you represent include within the fire science degree curriculum?**



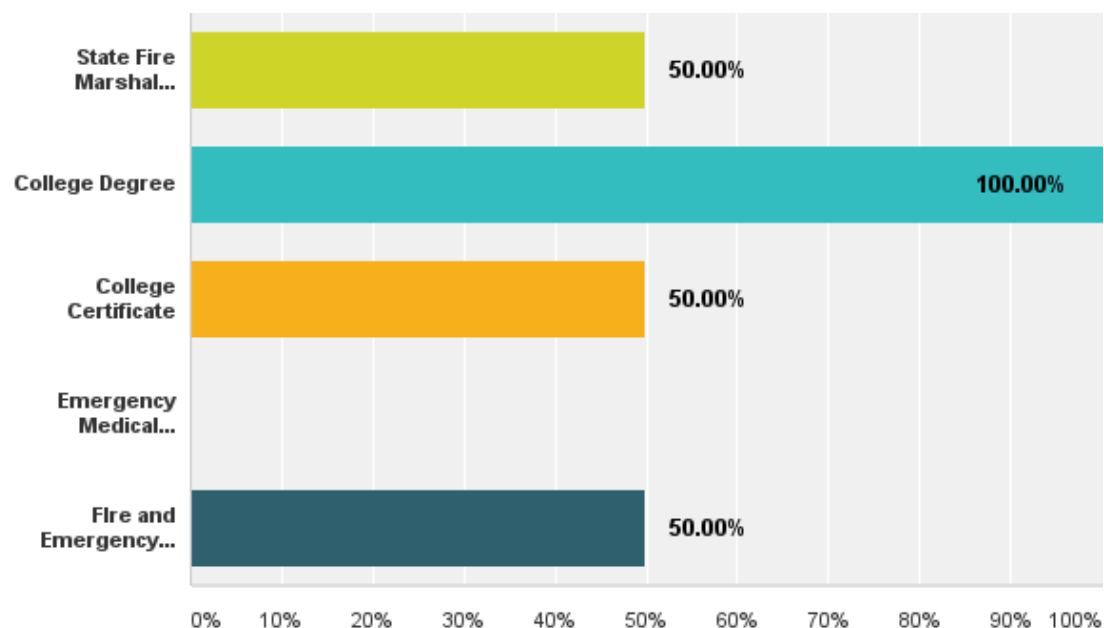
Answer Choices	Responses
Engineering	0.00% 0
Enforcement	0.00% 0
Emergency Response	0.00% 0
Economic Incentives	0.00% 0
Education	0.00% 0
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	100.00% 2
<b>Total Respondents: 2</b>	

**Q5: Which of the following risk reduction intervention development methodologies are covered within the curriculum of the fire science degree program you represent?**



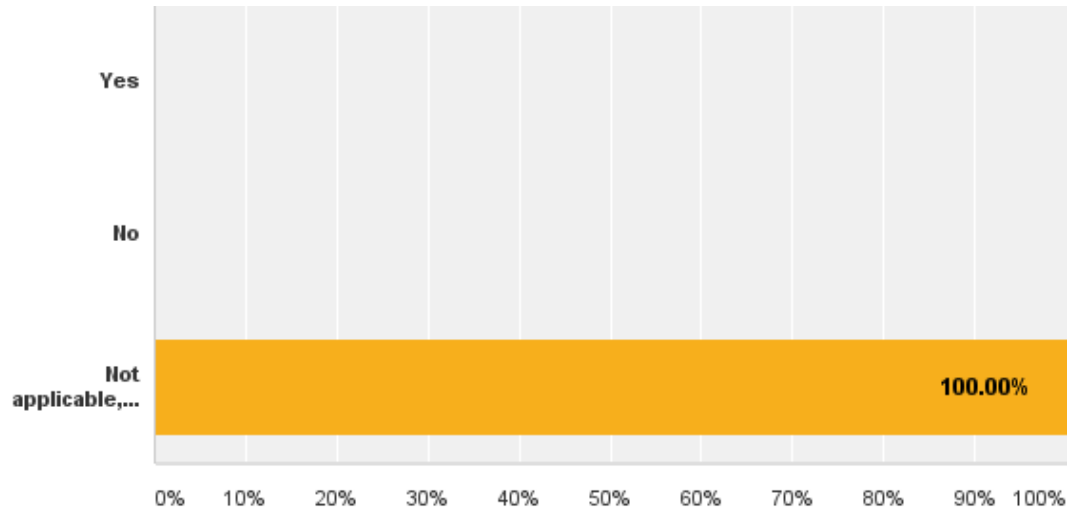
Answer Choices	Responses
Traditionally developed and administered fire prevention programs delivered community wide.	0.00% 0
The development of risk reduction interventions based on community emergency response data, demographics, and at risk populations.	0.00% 0
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	100.00% 1
Total Respondents: 1	

**Q6: Which of the following are components of the fire science program you represent?**



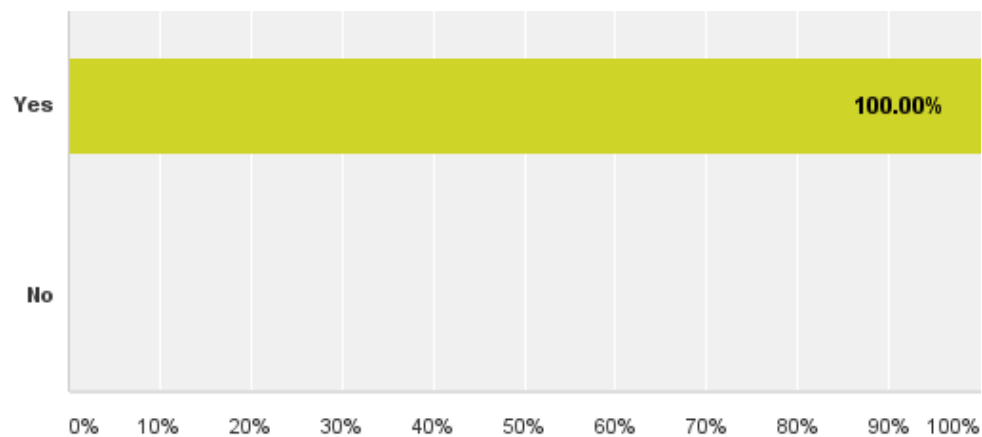
Answer Choices	Responses	
State Fire Marshal Certification	50.00%	1
College Degree	100.00%	2
College Certificate	50.00%	1
Emergency Medical Technician Certification	0.00%	0
Fire and Emergency Services Higer Education (FESHE) approved curriculum	50.00%	1
<b>Total Respondents: 2</b>		

**Q7: Does the fire science degree curriculum at the community college you represent emphasize the relationship between risk reduction/prevention activities and emergency response operations?**



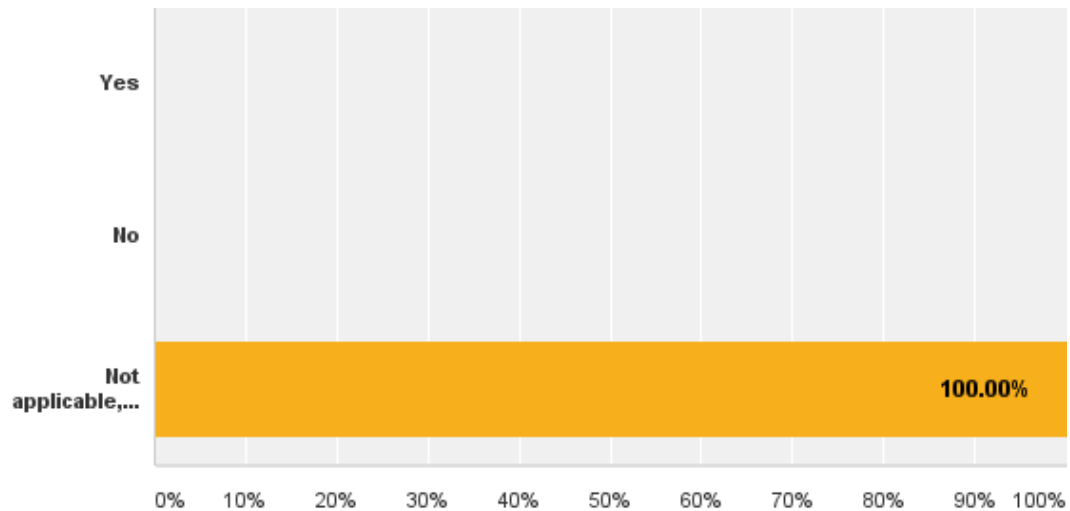
Answer Choices	Responses
Yes	0.00% 0
No	0.00% 0
Not applicable, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	100.00% 2
Total	2

**Q8: Does the fire science degree curriculum at the community college you represent include an overview of the strategic planning process?**



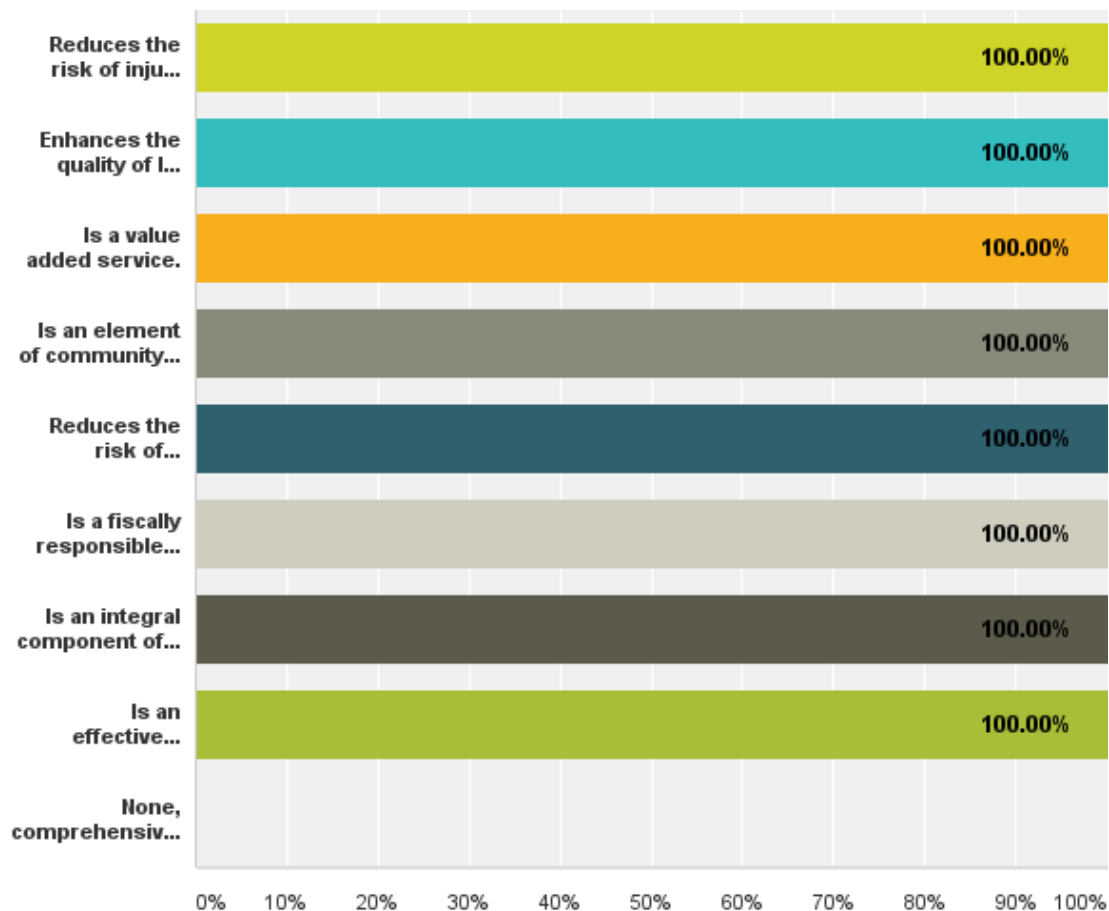
Answer Choices	Responses
Yes	100.00% 1
No	0.00% 0
Total	1

**Q9: Does the fire science degree curriculum at the community college you represent include community risk analysis based on community emergency response data, demographics, and at risk populations?**



Answer Choices	Responses
Yes	0.00% 0
No	0.00% 0
Not applicable, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	100.00% 1
<b>Total</b>	<b>1</b>

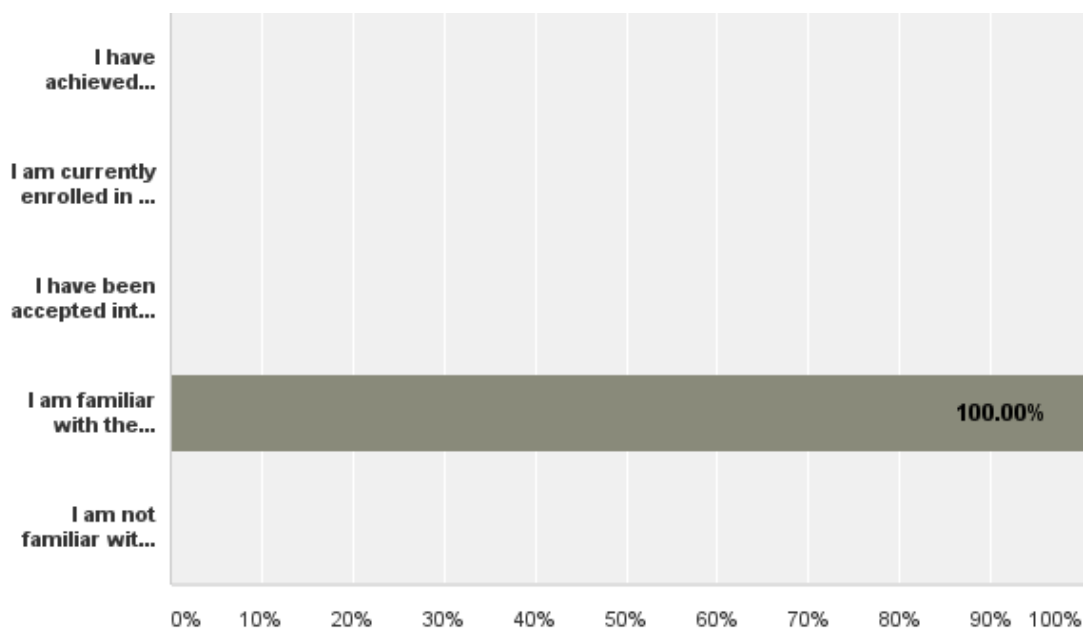
**Q10: Which of the following do you believe are benefits of including comprehensive multi-hazard community risk reduction strategy within the fire science degree program curriculum?**



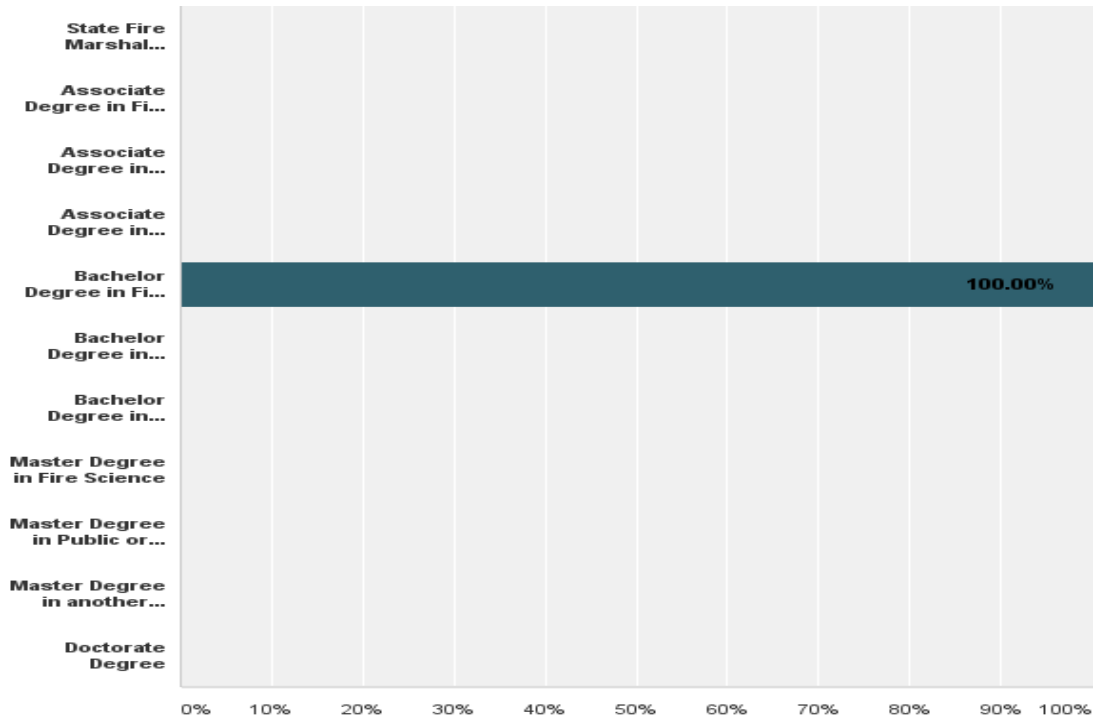
Answer Choices	Responses
Reduces the risk of injury , death, and property loss.	100.00% 1
Enhances the quality of life within the community .	100.00% 1
Is a value added service .	100.00% 1
Is an element of community resilience .	100.00% 1
Reduces the risk of firefighter injury and death .	100.00% 1
Is a fiscally responsible strategy .	100.00% 1
Is an integral component of community planning and development .	100.00% 1
Is an effective budgeting tool .	100.00% 1
None, comprehensive multi-hazard community risk reduction philosophies should not be included in the fire science degree curriculum .	0.00% 0
<b>Total Respondents: 1</b>	



**Q11: With respect to the Executive Fire Officer Program, which of the following most accurately reflect your status?**



Answer Choices	Responses
I have achieved Executive Fire Officer Status.	0.00% 0
I am currently enrolled in the executive Fire Officer Program.	0.00% 0
I have been accepted into the Executive Fire Officer Program, but have not started the program.	0.00% 0
I am familiar with the Executive Fire Officer Program.	100.00% 1
I am not familiar with the Executive Fire Officer Program.	0.00% 0
<b>Total</b>	<b>1</b>

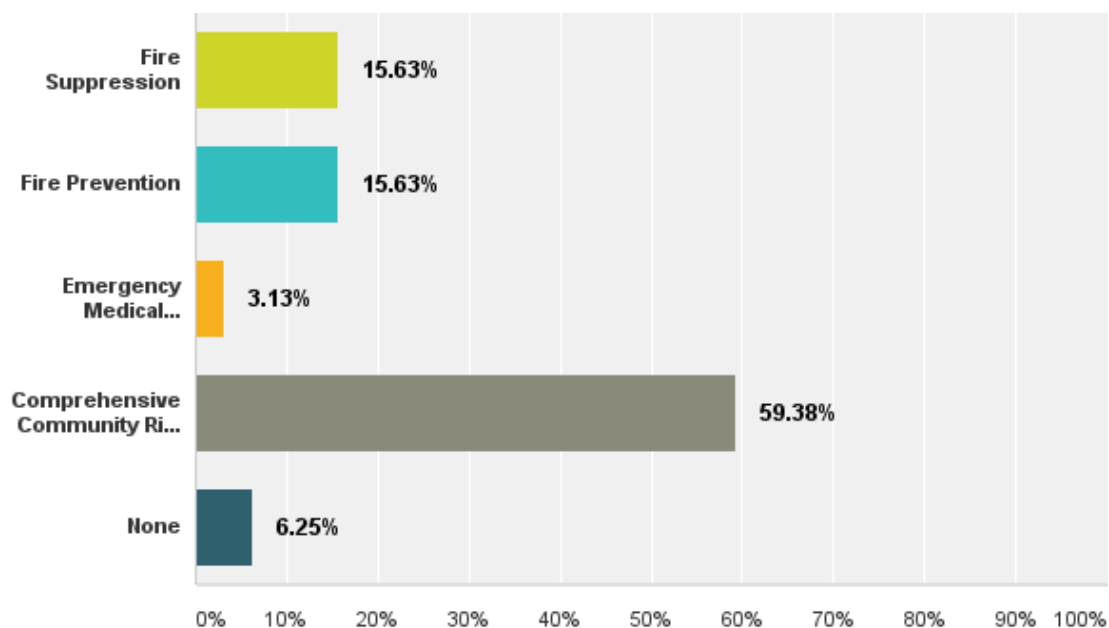
**Q12: Which of the following most accurately reflects your educational status?**

Answer Choices	Responses	
State Fire Marshal Certification	0.00%	0
Associate Degree in Fire Science	0.00%	0
Associate Degree in Public or Business Administration	0.00%	0
Associate Degree in another discipline	0.00%	0
Bachelor Degree in Fire Science	100.00%	1
Bachelor Degree in Public or Business Administration	0.00%	0
Bachelor Degree in another discipline	0.00%	0
Master Degree in Fire Science	0.00%	0
Master Degree in Public or Business Administration	0.00%	0
Master Degree in another discipline	0.00%	0
Doctorate Degree	0.00%	0
<b>Total Respondents: 1</b>		

## Appendix Z

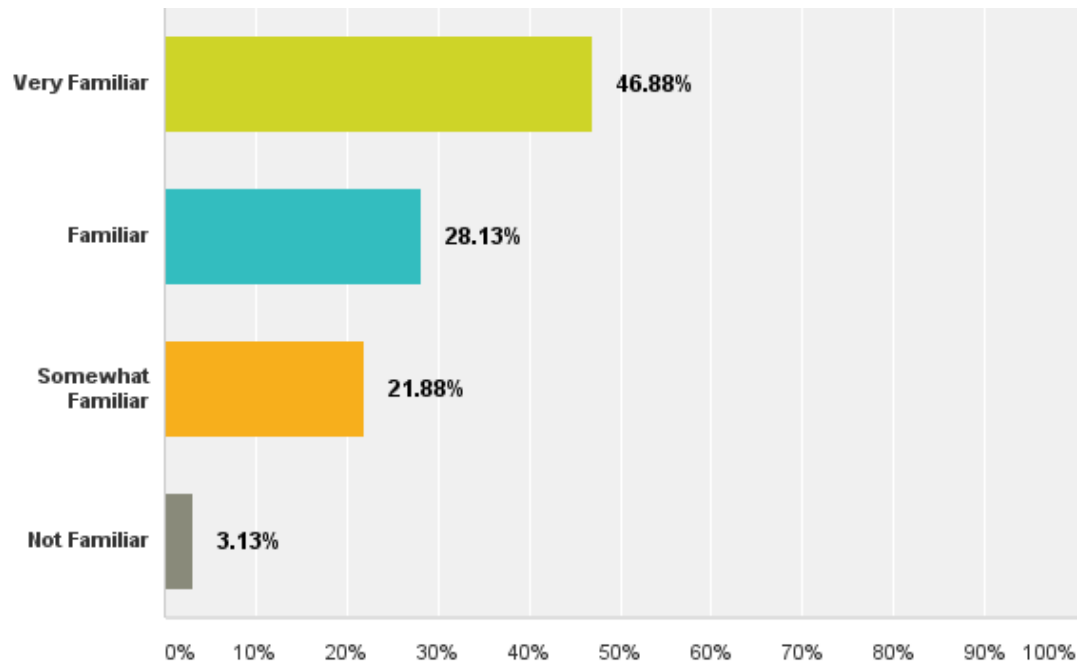
### National Community College Questionnaire Responses

**Q1: In your opinion, what is the most important concept covered in a fire science associate degree program?**



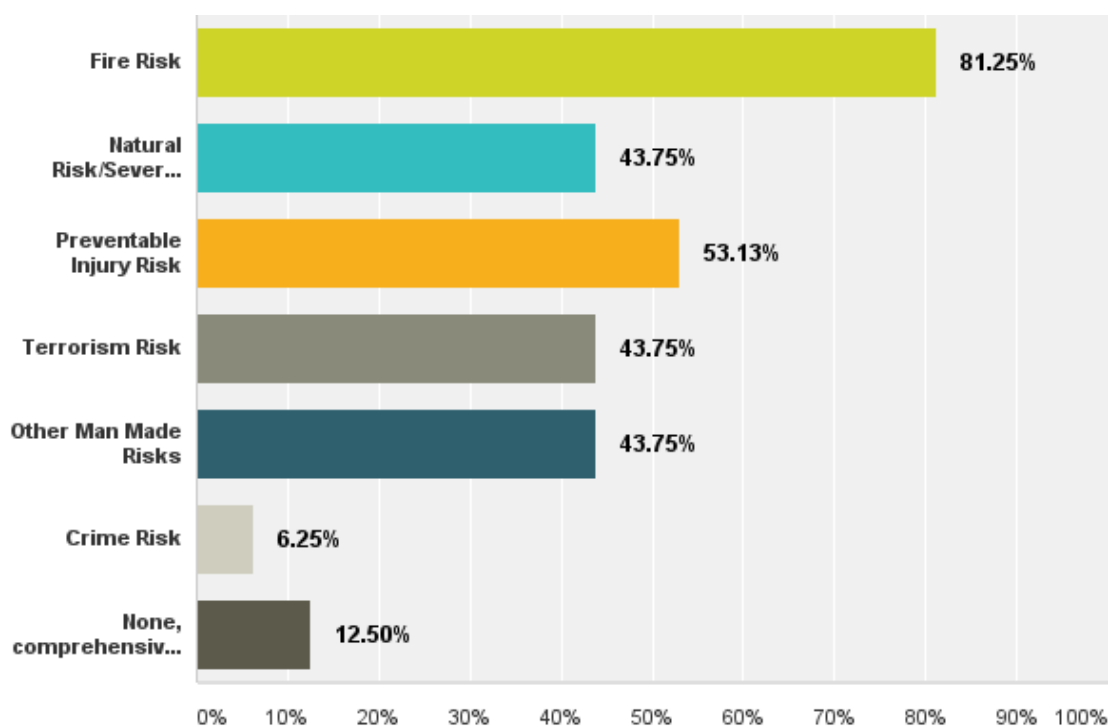
Answer Choices	Responses	
Fire Suppression	15.63%	5
Fire Prevention	15.63%	5
Emergency Medical Services	3.13%	1
Comprehensive Community Risk Reduction and Prevention	59.38%	19
None	6.25%	2
<b>Total</b>		<b>32</b>

**Q2: How familiar are you with the comprehensive multi-hazard community risk reduction methodology?**



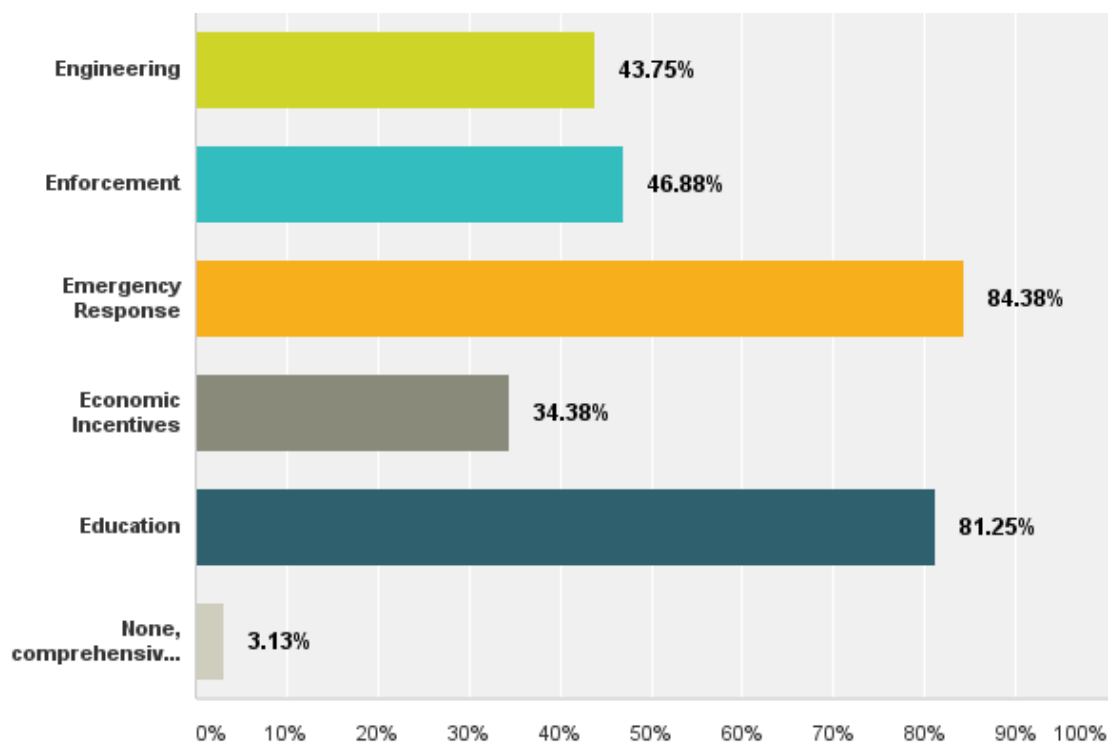
Answer Choices	Responses	
Very Familiar	46.88%	15
Familiar	28.13%	9
Somewhat Familiar	21.88%	7
Not Familiar	3.13%	1
<b>Total</b>		<b>32</b>

**Q3: With respect to comprehensive multi-hazard community risk reduction methodology, which of the following risk categories does the community college you represent include in the fire science degree curriculum?**



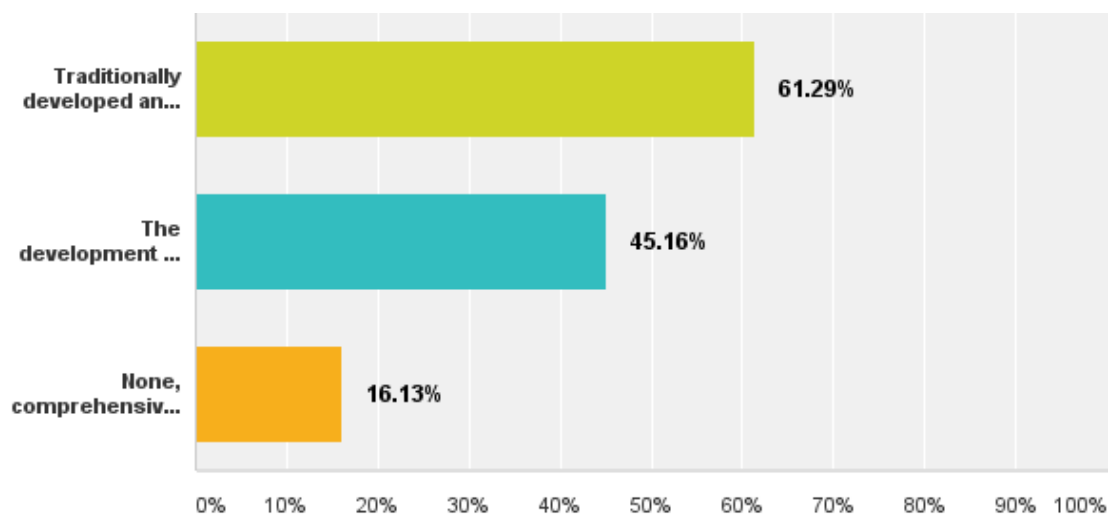
Answer Choices	Responses
Fire Risk	81.25% 26
Natural Risk/Sever Weather Risk	43.75% 14
Preventable Injury Risk	53.13% 17
Terrorism Risk	43.75% 14
Other Man Made Risks	43.75% 14
Crime Risk	6.25% 2
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	12.50% 4
Total Respondents: 32	

**Q4: Which of the following risk reduction and prevention intervention theories does the college you represent include within the fire science degree curriculum?**

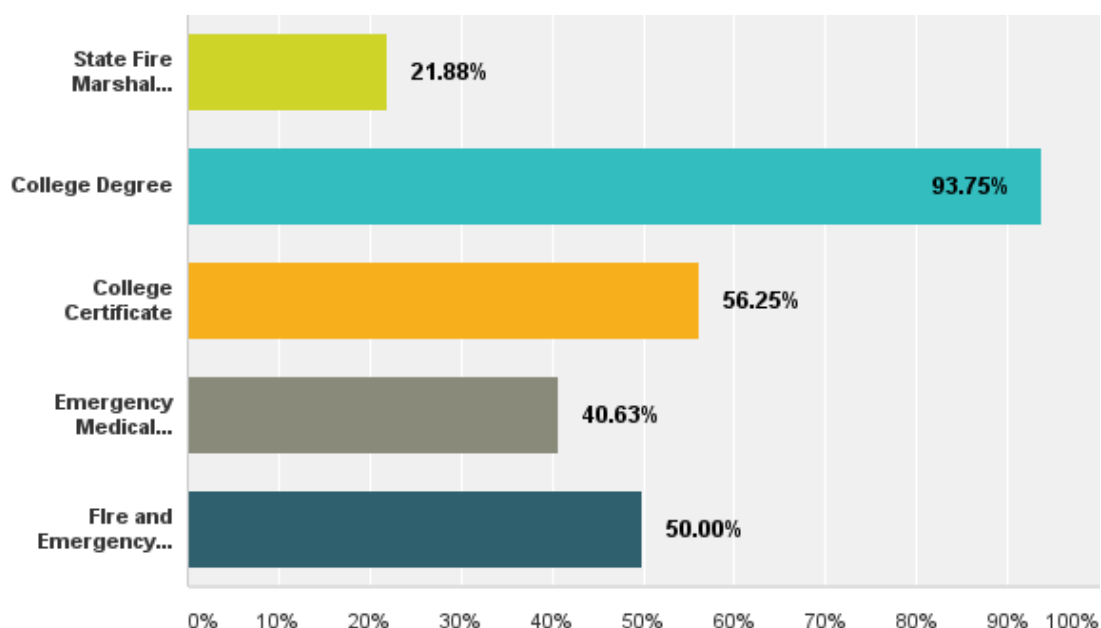


Answer Choices	Responses
Engineering	43.75% 14
Enforcement	46.88% 15
Emergency Response	84.38% 27
Economic Incentives	34.38% 11
Education	81.25% 26
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	3.13% 1
Total Respondents: 32	

**Q5: Which of the following risk reduction intervention development methodologies are covered within the curriculum of the fire science degree program you represent?**



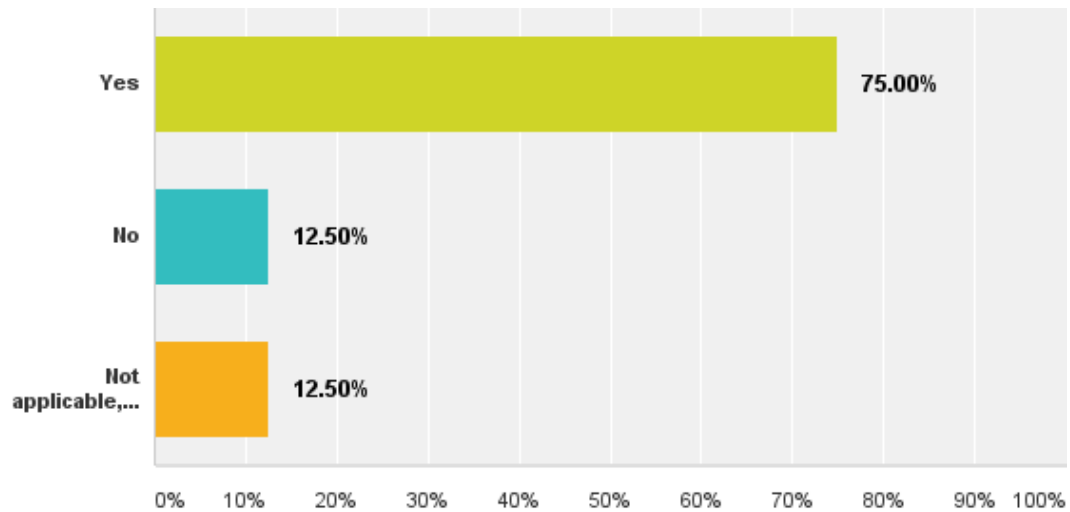
Answer Choices	Responses
Traditionally developed and administered fire prevention programs delivered community wide.	<b>61.29%</b> 19
The development of risk reduction interventions based on community emergency response data, demographics, and at risk populations.	<b>45.16%</b> 14
None, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	<b>16.13%</b> 5
<b>Total Respondents: 31</b>	

**Q6: Which of the following are components of the fire science program you represent?**

Answer Choices	Responses	
State Fire Marshal Certification	21.88%	7
College Degree	93.75%	30
College Certificate	56.25%	18
Emergency Medical Technician Certification	40.63%	13
Fire and Emergency Services Higher Education (FESHE) approved curriculum	50.00%	16
<b>Total Respondents: 32</b>		

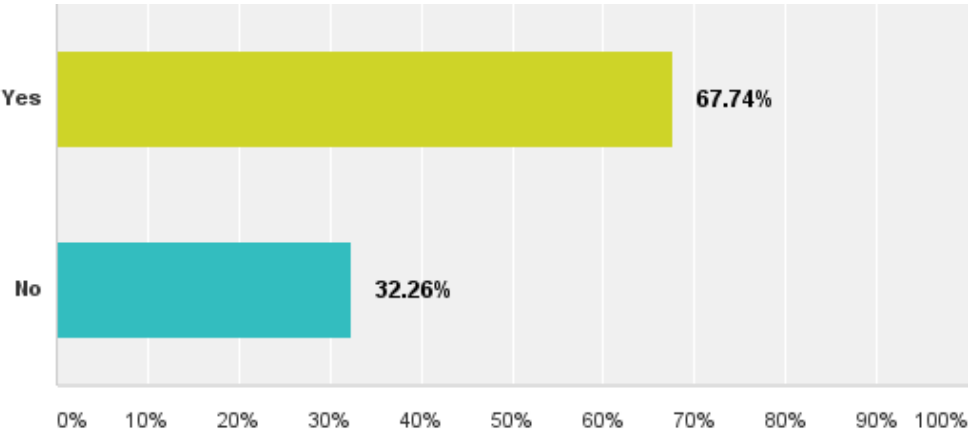


**Q7: Does the fire science degree curriculum at the community college you represent emphasize the relationship between risk reduction/prevention activities and emergency response operations?**



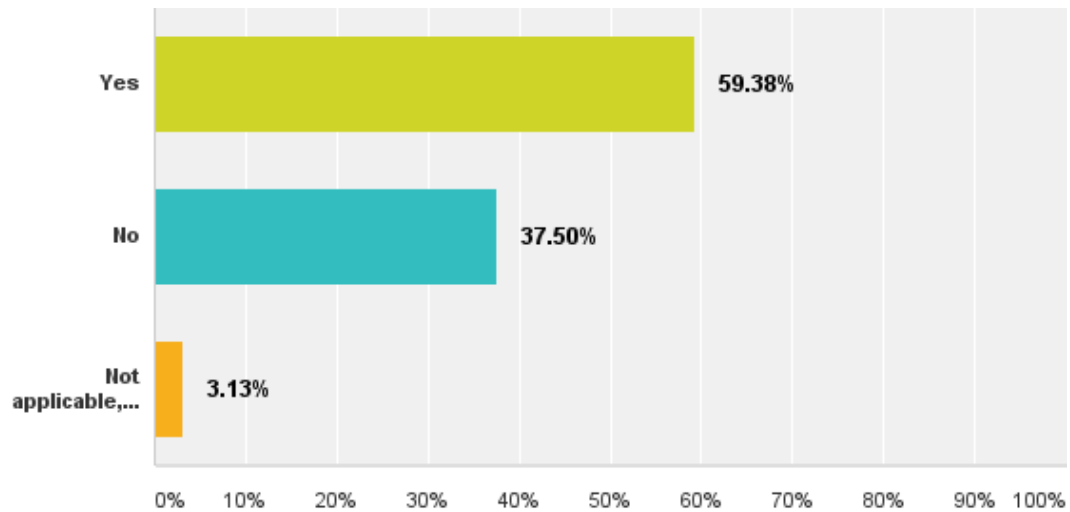
Answer Choices	Responses
Yes	75.00% 24
No	12.50% 4
Not applicable, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	12.50% 4
<b>Total</b>	<b>32</b>

**Q8: Does the fire science degree curriculum at the community college you represent include an overview of the strategic planning process?**



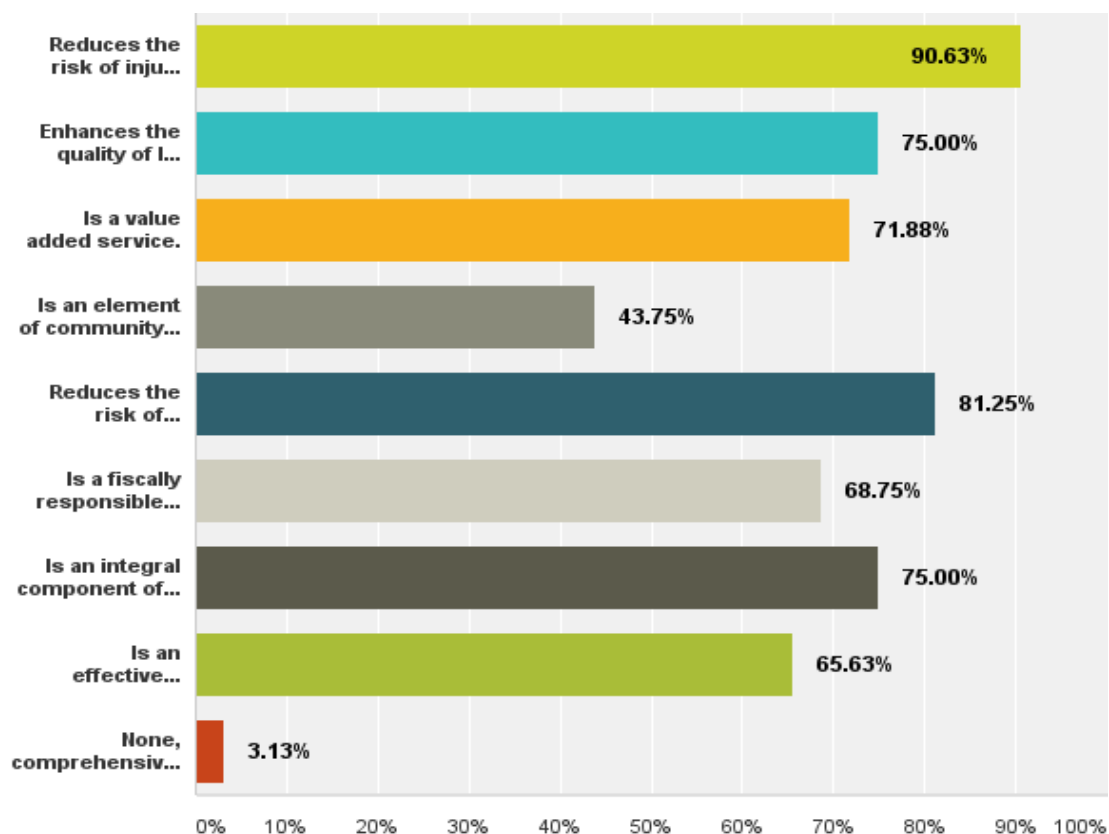
Answer Choices	Responses	
Yes	67.74%	21
No	32.26%	10
Total		31

**Q9: Does the fire science degree curriculum at the community college you represent include community risk analysis based on community emergency response data, demographics, and at risk populations?**



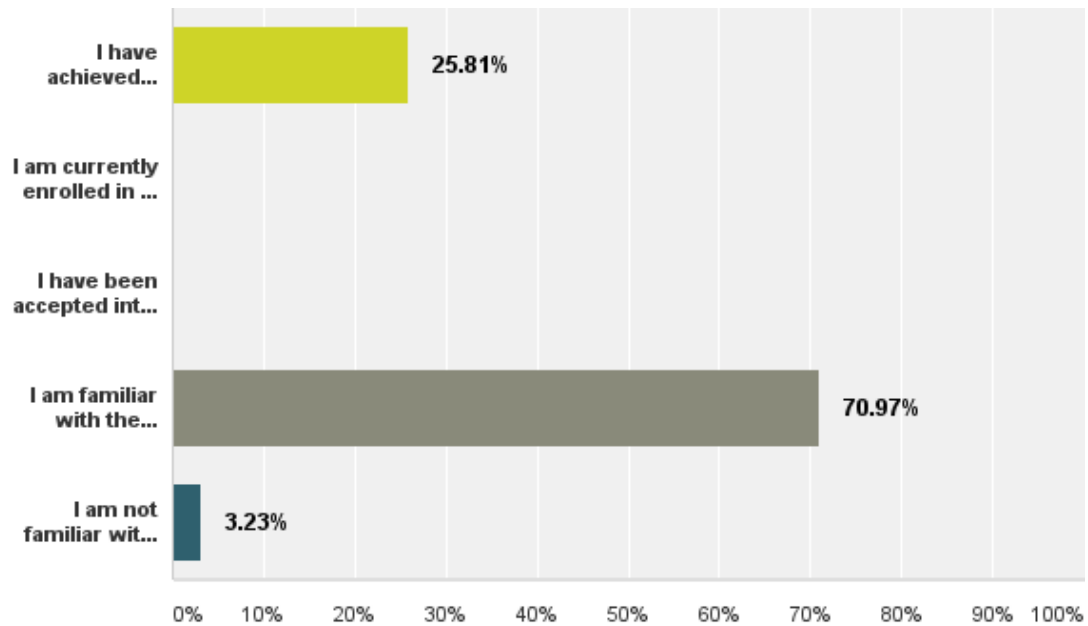
Answer Choices	Responses
Yes	59.38% 19
No	37.50% 12
Not applicable, comprehensive multi-hazard community risk reduction philosophies are not included in the fire science degree curriculum.	3.13% 1
<b>Total</b>	<b>32</b>

**Q10: Which of the following do you believe are benefits of including comprehensive multi-hazard community risk reduction strategy within the fire science degree program curriculum?**



Answer Choices	Responses
Reduces the risk of injury , death, and property loss.	90.63% 29
Enhances the quality of life within the community .	75.00% 24
Is a value added service.	71.88% 23
Is an element of community resilience.	43.75% 14
Reduces the risk of firefighter injury and death.	81.25% 26
Is a fiscally responsible strategy .	68.75% 22
Is an integral component of community planning and development.	75.00% 24
Is an effective budgeting tool.	65.63% 21
None, comprehensive multi-hazard community risk reduction philosophies should not be included in the fire science degree curriculum.	3.13% 1
Total Respondents: 32	

**Q11: With respect to the Executive Fire Officer Program, which of the following most accurately reflect your status?**



Answer Choices	Responses
I have achieved Executive Fire Officer Status.	25.81% 8
I am currently enrolled in the executive Fire Officer Program.	0.00% 0
I have been accepted into the Executive Fire Officer Program, but have not started the program.	0.00% 0
I am familiar with the Executive Fire Officer Program.	70.97% 22
I am not familiar with the Executive Fire Officer Program.	3.23% 1
<b>Total</b>	<b>31</b>

**Q12: Which of the following most accurately reflects your educational status?**