

Running head: SUSTAINABLE INCIDENT MANAGEMENT TEAM

Developing a sustainable Local
Incident Management Team program in Guilford County North Carolina
Michael B. Wright
Guilford County Emergency Services, Guilford County North Carolina

Certification statement

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

Michael Wright

Abstract

The problem was that Guilford County lacks sufficient personnel in any single discipline to fully support multi-operational period events at a local level. This had the consequence of inadequate resources and misappropriation of resources. The purpose of this evaluative research was to determine the effectiveness of current practices. This research explored; a history of the events extending beyond a single operational period; the training of those assigned as a member of the IMT and the proper use of available resources. A survey was conducted of allied agency capabilities and the willingness to participate in a Local IMT. Recommendations included; establish a leadership team, develop a position specific training matrix, develop a recruitment program which extends outside the fire service.

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Introduction

Within government and private organizations resource management and operational controls have been challenged when large events and escalating emergencies have occurred. When dealing with large operations and incidents such as a military theatre, a public health emergency and natural disasters, to name a few; managing the process and achieving the desired outcome has proven to be challenging.

In the 1970's the U.S. Forestry Service initiated a process to manage and control large incidents in order to ensure the safety of personnel, allow for proper resource management and allocation as well as achieve the desired incident outcome. Through a collaborative effort of many agencies, the Firefighting Resources of Southern California Organized for Potential Emergencies (FIRESCOPE) was developed in an effort to provide a structured Incident Command System (ICS). These principals of ICS eventually evolved into the operational component later adopted by the fire service. The FIRESCOPE ICS was revised to meet the original National Interagency Incident Management System (NIIMS) in the early 1980's (Firescope, 1988).

There is arguably no single incident that has had a greater impact on the fire service specifically and first responders in general than the events of September 11,2001. Due to the magnitude of multiple major events that impacted all of the public safety disciplines at every level of government during these events, it became apparent that additional guidance and coordination was needed for events of significant magnitude. On February 23,2003; in an effort to better coordinate government response at Federal, State and Local levels, President George W. Bush issued Homeland Presidential Directive #5

(HSPD – 5) which states the Secretary of Homeland Security is “to enhance the ability of the United States to manage domestic incidents by establishing a single, comprehensive national incident management system” (Bush, 2003). The system would come to be known as NIMS. The need for the NIMS was later to be reiterated in the hurricane season of 2004 and came to a culmination in 2005 with Hurricane Katrina. The directive to become NIMS compliant has been realized at every level of government since the inception and propagation of the program. As part of the effort to be NIMS compliant, Guilford County has sought to establish stronger command and control processes for incident management.

The problem is that Guilford County lacks sufficient personnel in any single agency to fully support multi-operational period events at a local level utilizing a Local Incident Management Team (IMT) program. This has the consequence of inadequate resources and misappropriation of resources during a major event. The purpose of this research is to evaluate the current practice of IMT operations and determine options that may assist with the development of a Local IMT using currently identified resources within Guilford County. This research will explore a history of the number and type of events extending beyond a single operational period; the training of those assigned as a member of the IMT and the proper use of available resources. Additionally, an assessment will be conducted of allied fire agency capabilities and the willingness to participate in a Local IMT program. This research intends to answer the questions; Does a pool of properly trained personnel exist within Guilford County to provide Command and General Staff for an event lasting multiple operation periods? Does the current process utilize resources according to their training? Is it feasible to train agency

personnel in specialized areas such as the Command and General Staff roles with the expectation that they are available for multi-agency, multi-jurisdictional all-hazard response within the county? What alternatives exist for staffing of Command and General Staff positions?

Background and significance

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

Guilford County is home to Piedmont Triad International Airport (PTIA). There are numerous suburban housing developments with homes ranging from the \$60K range to well over a million dollars in value. The county is also home to the eastern region Federal Express hub which is to come on line with Fed-Ex in late 2010. There are numerous commercial and industrial facilities as well as multiple business parks scattered throughout the county and the triad region. The county is also a major terminus for a number of thoroughfares. Interstate corridors such as I85 and I73 running north to south and I40 & I840 running east to west; state highways 220, 421, 62, 29/70, 311, 66 & 68 intersect in the triad area of which Guilford County is considered to be the heart of the triad.

The Guilford County Department of Emergency Services (GCES) consists of three divisions; Fire Service Division (GCES-Fire), Emergency Management Division (GCEM) and the Emergency Medical Services Division (GCEMS). The Fire Service Division (GCES-Fire) is responsible for providing coordination and oversight for fire protection and service delivery within the unincorporated areas of Guilford County North Carolina. The GCEM is charged with administration of the Emergency Management Program on a county wide basis per NC General Statute 166. Both municipalities; High Point and Greensboro have a designated point of contact to serve as the municipal representative to the GCEM for the purpose of coordinating the EM program internal to their municipal organization. The GCEMS is also charged with providing service on a county wide basis and operates a tiered response serving as the exclusive ALS provider and patient transport in conjunction with fire response as a BLS provider.

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

One of the major challenges facing the fire service in Guilford County is resource management. The challenge of resource management from the perspective of coordinating efforts towards a common goal and not duplicating service delivery in one area while neglecting service delivery in another area remains as a consistent challenge. Over the past 20 years there has been significant improvement of resource management in the area of fire ground operations as well as training development and delivery. The area most lacking in operations is the ability to support a multi-operational period event by any single agency within Guilford County.

This applied research project will examine the capabilities of allied fire service agencies as they currently exist and operate within Guilford County. This analysis relates to Unit #1 and Unit #2 terminal objective in the course Executive Analysis of Fire Service Operations in Emergency Management (FEMA Student Manual, second edition Mar. 2009) which states “The students will be able to analyze their departments’ level of preparedness” and “Students will be able to apply the command options of the incident command system to major emergencies” respectively. This analysis also relates to the U.S. Fire Administration Operational Objectives #3,4 & 5; “Reduce the loss of life from fire of firefighters”, “To promote within communities a comprehensive, multi-hazard risk-reduction plan led by the fire service organization” and “to respond appropriately in a timely manner to emerging issues” (U.S. Department of Homeland Security, 2007). Through providing a stronger command and control function the possibility of firefighter injury or death is reduced; leading a collaborative effort of allied agencies towards a common goal of developing a Local IMT, the ability of a local jurisdiction to reduce risk associated with cascading events of all types helps to limit exposure during a disaster and

recovery operation. Finally, the collaborative effort of allied agencies in a multi-discipline, multi-jurisdictional response has been a challenge faced by public safety for many years and is only recently begun to be addressed at all levels of government.

Literature Review

Over the past decade the fire service has experienced an accelerated rate of forward movement towards a single operational process and procedure at a rate that surpasses the previous three decades combined. That single process has moved from a focus of exclusive fire service operations to multi-discipline agencies inclusive of both public safety and non-public safety agencies alike. The process which is formally known as the National Incident Management System (NIMS) was enacted post 9/11 with the intent of providing incident coordination and control at all levels of government and all types of operations.

On February 28, 2003, under President George W. Bush, Homeland Security Presidential Directive -5 (HSPD-5) would set forth a policy with the stated purpose “ To enhance the ability of the United States to manage domestic incidents by establishing a single comprehensive national incident management system” (Bush, 2003). As part of the directive the National Response Plan (NRP) was to be developed which was to include the NIMS. Item 15 under the policy section of HSPD-5 states;

The Secretary shall develop, submit for review to the Homeland Security Council, and administer a National Incident Management System (NIMS). This system will provide a consistent nationwide approach for Federal, State, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity.

To provide for interoperability and compatibility among Federal, State and local capabilities, the NIMS will include a core set of concepts, principles, terminology, and technologies covering the incident command system; multi-agency coordination systems; unified command; training; identification and management of resources (Including systems for classifying types of resources); qualifications and certification; and the collection, tracking and reporting of incident information and incident resources.

The basic premise of the NRP and NIMS is to provide incident coordination and control at all levels of government and all types operations. While this concept may have been challenging, bold and aggressive for some agencies, the Incident Command System (ICS) has become a routine mode of operation for many fire service organizations. With the advent of NIMS the fire service was challenged to go beyond the routine ICS functions performed on a daily basis. The ICS functions were familiar, but the enhanced NIMS structure introduced new concepts that would be intended to expand and standardize the overall NIMS program. The additional Command and General Staff positions of Finance Section Chief (FSC), Planning Section Chief (PSC) and Logistics Section Chief (LSC) had not previously been considered or utilized when establishing a command structure under ICS. With the exception of the Incident Commander, the positions most fire service personnel were familiar with would now fall under the command staff position of the Operations Section Chief (OSC).

The ICS and incident coordination is not a new endeavor for the fire service. The ICS has actually continued to evolve since it first began in the early 1970's. In 1972 the U.S. Congress charged the United States Forestry Service to develop a process that would

address large scale incidents involving multi-agency, multi-jurisdictional response. This charge came as a result of the California Wildfires of the 1970's. Out of this directive to the USFS a group of stakeholders in the Southern California region were assembled to study the concerns as identified. The group and ultimately the defined process would become known as the Firefighting Resources of Southern California Organized for Potential Emergencies (FIRESCOPE). The programs foundation revolved around 3 fundamental objectives. These objectives were;

- Improve fire ground operations
- Increase the effectiveness of fire protection agencies
- Improve multi-agency coordination

Once distilled by the working group the FIRESCOPE system would address two components;

1. Incident Command System (ICS) – for improving incident management.
2. Multi-agency Coordination System (MACS) – for improving multi-agency coordination for major or multiple incidents and day-to-day program management.

In the early 1980's the ICS and MACS training program was completed. However, in order for the full potential of the system to be realized the stakeholders understood that they must place more emphasis on all risk application (Firescope, 1988). It was in the late 1980's that the philosophy of the ICS would begin to be incorporated into the everyday operations of the fire service and later become institutionalized as the means of Fire ground Command and Control. The ICS would later become a core component of the NIMS philosophy.

In the article *NIMS: The Lasting Legacy of 9-11* , when speaking of the rescuers and victims who gave their lives, Under Secretary of Homeland Security for Emergency Preparedness and Response Michael D. Brown states “Their legacy will also live on in a newly adopted management approach that builds upon the long-effective incident command system coupled with lessons learned from 9/11 and elsewhere, and the realization of the new landscape facing emergency responders” (Brown, 2004). It was recognized by the federal government that the ICS was an effective tool; but was not totally comprehensive to address the needs for unified command in a new era. As Brown points out later in the same article;

The Incident Command System is one of the key features of NIMS. This should be reassuring for those of you who have been using this system for years. We know that ICS works. The principles of unified command have also been incorporated into NIMS to ensure joint decision making in multi-jurisdictional events (Brown, 2004)

Secretary Brown makes it clear in the article that the key features of NIMS are the ICS and unified command. The NIMS Integration Center (NIC) was later established by Secretary Ridge to address the need for an all-hazards approach to the use of NIMS (Brown, 2004). The overarching objective of the NIMS program is to allow all responders to have a common method for conducting operations regardless of the nature or cause of the incident.

NIMS was intended to address all-hazards , providing for incident coordination through the principles of unity of command and span of control allowing for an

organizational structure that is built out in a modular format and based upon the ICS hierarchy. The modular format allows for the organizational structure to expand and contract with the incident. As the structure is adapted to the incident, the continuity of operations through ICS and unified command structure allows for additional resources from multiple disciplines to be readily integrated as the needs of the incident demand, regardless of the incident type. Simply stated, NIMS allows for continuity of operations through common practices and procedures by allied agencies (Bourne, 2005). In the report *Responding to Incidents of National Consequence* (FEMA, 2004) a number of considerations and recommendations are made that not only applies to the incidents of national consequence, but can also be applied to the state, regional and local incidents. The report recommends that jurisdictions develop a local and regional capability to sustain a reinforced response. It is suggested that this capacity be established through mutual-aid agreements with allied agencies from surrounding jurisdictions. The report also points out that consideration should be given to establish a local support structure that can be immediately established to carry the operations for the first 24-72 hours. Additional consideration should be given not only to the event at hand, but also to the continued public protection and service delivery for day-to-day operations.

A basic premise of NIMS is to divide the event into operational periods with stated objectives as set out in an Incident Action Plan (IAP) which is established for each operational period. The operational period is directed by Command and General Staff in an effort to achieve the desired objectives as established in the IAP for the established time frame. The Command and General Staff become part of the Incident Management Team (IMT). “An IMT is an incident command organization made up of the Command

and General Staff members and other appropriate personnel in an ICS organization and can be deployed or activated as needed” (FEMA, 2008 pg 61) An IMT may also be a stand-alone team that is deployed to assist or relieve existing Command and General Staff during an incident that extends multiple operational periods.

In the report *From Forest Fires to Hurricane Katrina; Case Studies of Incident Command Systems* Moynihan exams the dynamics of successful and unsuccessful ICS as it relates to the command structure and interaction (Moynihan, 2007). Moynihan points out a number of considerations that should be reviewed by those who may find themselves serving on an IMT. A key point discussed in the report is the structure of the ICS. While the fire service typically views the ICS as a hierarchy of command and control, the perspective is offered that the IMT is actually a hierarchy network. By that terminology it is meant that resources for a multi-agency, multi-jurisdictional incident depend upon a strong network of resources that may be lead by a hierarchy. As a member of an IMT it is important that one realizes the network of resources is key to a successful outcome. Limitations within the network may serve to hinder a positive outcome.

The magnitude of the incident will directly relate to the size of the network that will need to be established in order to control an incident. The larger the incident, the more complex the network becomes. A large incident may also require task specific networks within the organizational structure; for example an Air Branch of a wildland fire may be established to assist the ground crews with fire control. The Air Branch alone will have a defined set of needs that will be supported through a specific network.

This specific network will relate back to the overall ICS through a specific component of the IMT.

Moynihan contends that the successful IMT's are those that have established personal trust and relationship through previous interaction such as training. An additional benefit when establishing a local IMT is a term Moynihan refers to as social capital. When a local IMT is formed, because it is established at a local level, members are able to interact outside of the work day. Interaction through social circles enhances relations and further establishes the social capital. "Where working relations and trust were lacking, we see coordination problems and a weak network" (Moynihan,2007 pg.30). FEMA defines the Local IMT as "a single and/or multi-agency team for expanded incidents, typically formed and managed at the town, city, or county level by a predetermined regional entity" additionally the local IMT "May be established at a major structure fire, a multi-vehicle crash with multiple patients, an armed robbery, a haz-mat spill, a planned event, or at other incidents requiring an expanded incident organization" (FEMA, 2007 pg.6) 10 Because of the community based orientation of a local IMT, the opportunity to build a strong response network functioning within the ICS should be a realistic goal in most communities.

Tualatin Valley Fire & Rescue (TVF&R), located in Oregon State, have demonstrated this practice in the make- up of their local IMT's. Through engaging non-fire or public safety personnel to participate in defined roles such as Liaison Officer (LNO) on the IMT the opportunity to strengthen their network is increased; "TVF&R staffs most of the Liaison positions and one Deputy Incident Commander (DIC) position with non-TVF&R employees; most are senior staff members of some of the cities within

district boundaries, but we also have private sector and county representatives” the article further states “During incidents, the LNO’s provide general representation for municipal responders and, if the incident is within their municipality, may become part of a unified command” (Tualatin Valley Fire & Rescue, 2009). Through local collaboration, the practice of establishing a strong network of stake holders to serve on the local IMT has proven to be beneficial for the TVF&R IMT program.

In the article *On-Call Assists* (Rubin, 2005) Rubin offers several advantages for establishing local IMT’s and some considerations for the make-up and role of the IMT. One of the advantages of a local IMT is the ever present political front; because the teams are composed of local members of allied agencies there is a common belief that a united front presented before the constituency of each agency ensures all agencies best interest is considered in the decision making processes. Many of the stakeholders have a voice at the table by virtue of their role on the IMT. These relationships are further cultivated through exercises and planned events.

In an effort to maintain the sustainability of the teams, the TVF&R has also established some positions that may be considered as non-conventional and filled the positions with non-public safety staff. By reaching outside of the public safety realm two distinct advantages have been realized; first is an increased pool of human resources that allows for additional redundancy within the team. Second is the advantage that is realized by having team members from other disciplines. Through engaging members of finance, public works, city and county administration and other areas, the team has enhanced their network and garnered additional social and political capital. This is in addition to strengthening the overall abilities of the IMT.

Another means of enhancing the IMT is through providing support for planned events. Because these type of situations typically offer an opportunity for training at a pace that is not time sensitive. Planning sessions are not as rigidly constrained as they may be during an actual incident, allowing time to mentor and teach apprentices as the IMT moves through process. Ultimately these scenarios foster the relationships that establish and build the social capital previously referred to by Moynihan.

While at times the idea of multi-agency, multi-jurisdiction operations may prove to be challenging for some organizations; it is an established reality that most response agencies face both of these scenarios on a routine basis. There are few agencies that are able to maintain self-sufficient operations simply due to funding and resource limitations.

While this may prove to be the reality for many agencies, there are also the political influences that may hamper interagency operations. Due to influencing political factors beyond the control of an agency representative, the concept of multi-agency and multi-jurisdictional operations may limit or hamper the ability to establish or participate in a local IMT or even a multi-jurisdictional incident. The National Association of Counties (NACO) has attempted to educate the public administrators on the subject of NIMS through the publication *National Incident Management System (NIMS) Guide for County Officials* which was published in 2006. In the document, government officials receive a brief overview of the NIMS program with an outline of the federal expectations for compliance. “Exercises which involve responders from multiple disciplines and multiple jurisdictions are the best way to measure incorporation of NIMS principles and practices, and also is a measurement criterion for NIMS compliance for Federal FY 07”

(National Association of Counties, 2006 pg.7)The information contained within the document, as well as the understanding of limiting federal grant eligibility, should prove to be beneficial in establishing a basis for NIMS compliance for interagency collaboration up to and including local IMT participation.

In addition to the concept of building a strong response network that may be engaged during an event and establishing social capital, another consideration that should be reviewed is the actual qualifications of the IMT candidate. As noted by Nichols in the Applied Research Project *Development of an all hazards Incident Management Team for Volunteer Fire Departments* “The selection or appointment of personnel to key staff and command roles should not be dependent on the individuals with the most bugles or stars on their collar, but rather the most qualified” (Nichols, 2005 pg.20). Federal, State and local guidance should be the determining factor for qualifications rather than individual rank and position within an organization. By providing a blended mix of knowledge, skills, abilities and tenure, two additional objectives are accomplished. First, a culture of growth and learning can be established within individual organizations and the IMT through mentoring both junior and senior staff. Second by being inclusive of junior staff, the long term sustainability of the team is bolstered, creating a self perpetuating succession program.

Based upon information gathered during the literature review, there are important factors which should be considered when establishing a local IMT. Personnel should have the appropriate training as agreed upon by the Local IMT guidance. Apprentice programs and training opportunities should be made available to qualified and qualifying individuals. In order to enhance the human resource pool agencies should consider using

a multi-agency and multi-jurisdictional approach to IMT staff selection. Not only does this approach allow for an increase in personnel, it also allows for the opportunity to build trust and relationships resulting in the social capital necessary to navigate dynamic personalities and difficult situations. Additionally, the IMT would benefit through recruiting members of general services, NGO's and non-public safety backgrounds as well as garnering political support through multi-agency interaction.

Procedures

The first step of the research procedures is to determine what data already exist that may be incorporated in the study of Developing a Sustainable IMT program as it currently exist in Guilford County After Action reports (AAR). The second step of the research procedures is to evaluate the data collected from the AAR's to determine if information exist that may establish trends as it relates to incidents and exercises within Guilford County. The third step in the research procedures is to determine the process that would be used to have a defined audience of fire service staff from the 21 fire departments which make up the GCFRC. The fourth step of the research procedures is to determine how to apply the fire staff survey to ensure a valid response and maintain integrity of the data collected.

Steps 1 & 2 of the procedures yielded data from a review of the AAR's (Appendix A). Data was compiled from the review of 11 AAR's. The AAR's spanned the time frame between July 2005 through March 2010. Of the 11 reports reviewed, 5 involved AAR's from major exercises and 6 involved AAR's from significant incidents. The intention of the review was to identify trends that may exist within the command structure as it relates to IMT's and Command and General Staff. The limitations included

the number of incidents and basis for the AAR. Not all major incidents in Guilford County have a written AAR. AAR's have typically been completed for large events that may require documentation for cost recovery, a locally declared event seeking a state or federal declaration or a training exercise which is facilitated through a contractor and has the provision of an AAR in the service delivery. There currently is not a defined trigger which initiates an AAR, therefore inconsistency exist with which exercise or event type is reported on. Through the evaluation of incident AAR's this procedure will serve to determine if a properly trained and equipped Command and General Staff exist to be established and utilized during exercises and events. It is assumed if there is an identified failure within the command structure (noted within the AAR) then question 1) Does a pool of properly trained personnel currently exist within Guilford County to provide Command and General Staff for an event lasting multiple operation periods, and question 4) What alternatives exist for staffing of Command and General Staff positions, may possibly be answered.

Step 3 was to identify the audience most suitable to receive the survey instrument. The decision was made to have the Fire Chief or a chief officer from the department to complete the survey. This class of personnel was selected because they typically serve as the agency administrator. Step 4 was the administration of a 12 question survey instrument (Appendix B) which was distributed to the 21 fire departments serving Guilford County, of which 11 were returned. The survey was conducted during April 2010. The data received was tabulated and placed into a spreadsheet (Appendix C). The purpose of the survey was to gather the data from each fire department and establish a

baseline of information to consider if the local IMT program is to be implemented and sustainable. The questions were designed to;

1. Establish a baseline understanding of NIMS training requirements for each position / rank as they exist within each department.
2. Determine the frequency of a multi-operational period event within each fire district over the past 5 years.
3. Determine the frequency at which an IMT has been used over the past 5 years.
4. Determine the ability of each fire district to activate and support an IMT with only internal resources
5. Determine the level of support that the fire departments would provide in county to allied jurisdictions for sustaining an incident spanning multiple operational periods.

Limitations of the survey included low response; only 52% of the fire departments responded to the survey. Limitations of the data were realized as well; the depth of the questions does not fully address the information needed. Additional survey instruments and a review of individual fire department training records would provide more in-depth data as it relates to the actual number of personnel qualified and credentialed within the positions / ranks. This method would allow for increased credibility of data quality rather than assuming that each individual holding a specific position is already credentialed. However, based upon the survey results the answers to question 2) Does our current process utilize resources according to their training, and question 3) Is it feasible to train agency personnel in specialized areas such as Command and General Staff roles with the expectation that they are available for multi-agency, multi-jurisdictional all-hazard response within the county may be found in part.

Definition of Terms

FIRESCOPE – Fire Resources of Southern California Organized for Potential

Emergencies

GCES – Guilford County Emergency Service

GCFRC –Guilford County Fire Rescue Council

IAP – Incident Action Plan

ICS –Incident Command System

IMT – Incident Management Team

NACO – National Association of Counties

NGO – Non-governmental Organization

NIC – NIMS Integration Center

NIIMS – National Interagency Incident Management System

NIMS – National Incident Management System

TVF&R – Tualatin Valley Fire & Rescue

USFA-United States Fire Administration

Results

Through the evaluative research process data was collected and evaluated to determine answers to the four questions asked. Certain limitations of the data were discovered during the research process. These limitations will be further defined as each question is answered. While the author has reservations about some of the results due to data limitations, the overall research project clearly helped to define needs within the process of service delivery and incident management. The literature review has also

proven to be a valuable resource for further understanding the needs and opportunities with the fire service of Guilford County.

Research question one; Does a pool of properly trained personnel currently exist within Guilford County to provide Command and General Staff for an event lasting multiple operation periods?

The results of the Guilford County Sustainable IMT survey (Appendix C) indicate that a human resource pool of properly trained personnel exist within Guilford County. The data displayed in Table 1 indicates of the 11 fire departments responding to the survey, 90 % of those departments require Chief Officers to be at the NIMS 400 level of certification. In addition 18% of the fire departments indicate that the Chief Officers are required to achieve certification at a Command Staff level. The limitations discovered with this survey instrument are the inability to determine a specific number of personnel certifications within each department. While the assumption may be made that 90% of the departments require Chief Officers to reach a level of Command and General Staff qualifications, it is unclear through this instrument the actual number of people who are qualified to this level.

Table 1. Level of Training Required for Personnel by Rank

NIMS Certification	Firefighter	Company Officer	Chief Officer
700	100%	90%	90%
100	90%	100%	90%
200	90%	100%	90%
300	18%	63%	90%
400	0	27%	90%
Command Staff	0	0	18%

Research question two; Does the current process utilize resources according to their training? The results of the Guilford County Sustainable IMT survey (Appendix C) indicate that 40% of the fire departments indicate they have experienced an incident in the past 5 years that would have benefited from establishing an IMT. In the past 5 years 36% of the fire departments indicate that they have actually established an IMT. While 60% of the fire departments indicate they have not experienced an event that would have benefited from an IMT and 63% indicate they have not established an IMT. This would appear to indicate that of the 40% of the fire departments that experienced an incident of significance 36% of those fire departments utilized the IMT concept. This would indicate that 80% of the time an incident of significance occurs the fire departments have utilized the IMT concept. While the assumption could be made the IMT's were established and correctly utilized according to rank and qualifications, no definitive evidence exist to validate the assumption. Limitations of the data do not allow for the collection of information necessary to define the actual level of training for the established IMT's. It is only based upon the assumption that an IMT is formed using the proper personnel with the proper training.

The information contained within the After Action Review 2005-2010 (Appendix A) also suggest that the use of IMT's is prevalent on large incidents. Of the 11 events reviewed the data indicates 100% of the time an IMT was established, 54% of the time the identified issues from the after action report indicate a lack of depth for multiple operational periods. The data further reveals that 45% of the incidents surveyed lasted 2 operational periods with a single incident continuing for 5 operational periods.

The AAR indicated no issue with regards to competency or lack of training with IMT staff.

Research question three; Is it feasible to train agency personnel in specialized areas such as the Command and General Staff roles with the expectation that they are available for multi-agency, multi-jurisdictional all-hazard response within the county?

The results of the Guilford County Sustainable IMT survey (Appendix C) indicate 100% of the fire departments surveyed are willing to allow staff to serve on a local IMT and respond to assist other jurisdictions on a county wide basis. Further, the respondents indicate a willingness to train appropriate staff to the necessary level to be NIMS compliant for proper credentialing and qualifications.

The After Action Review (Appendix A) further indicates establishing IMT's and a unified command on large scale events is a common practice within the county on both incidents and exercises. The weakness as indicated by the After Action Review is depth of staff to maintain an IMT for multiple operational periods. As indicated, the use of mutual aid and automatic aid currently exist in some areas. Based upon the survey results and information established through the After Action Review it is feasible to train agency staff in specialized areas of NIMS/ICS with the expectation of establishing a response component.

Research question four; What alternative exist for the staffing of Command and General Staff positions? The results of the Guilford County Sustainable IMT survey (Appendix C) indicate 100% of the Fire Departments responding to the survey demonstrate a willingness to allow participation in a local IMT. Additionally, the survey indicates 90% of the fire departments have Chief Officers trained to a NIMS 400 and

18% trained at the Command Staff level. Given the willingness of the departments to collaborate efforts, a human resource pool may exist within the fire service through mutual aid and automatic aid response. Further investigation into additional allied agencies as well as the use of fire service personnel is recommended. Further, the legal implications of such an arrangement should be researched as well.

Discussion

The FIRESCOPE project as initiated by the U.S. Congress in 1972 began a process to define and implement the ICS for the purpose of incident coordination during large scale events (Firescope, 1988) That process would later become the foundation for the current NIMS as recognized by the U.S. Government. Not only would the ICS seek to provide a means of incident coordination through resource management, NIMS would take the process further by establishing a Unified Command structure as part of the ICS (Brown, 2004). This unified command would be intended to allow all major stakeholders involved with the incident to have a say in the direction of the operation. The ultimate goal of the federal government was to establish a system that was modular and able to expand and contract with an incident in a consistent fashion at all levels of government in any jurisdiction.

As a part of the NIMS program at the local level FEMA recommends that an individual jurisdiction be able to provide a local support structure that allows for incident management and coordination for a 24-72 hour period. FEMA recommends consideration be extended to establishing a local IMT to provide the necessary support (FEMA,2004).

The purpose of this research project was to evaluate the current practice of IMT operations and determine options that may assist with the development of a Local or Type 3 IMT. This consideration is being extended in order to better coordinate significant events within Guilford County. Based upon the research conducted and literature reviewed the fire service of Guilford County may not be as far from implementing this concept as once thought.

The premise presented by Moynihan that a hierarchy network is established when an IMT is engaged in an incident provides a different viewpoint of the overall IMT interaction than once thought. The importance of establishing networks and those relationships within the networks is well demonstrated in the case studies (Moynihan, 2007). The importance of building social capital with others in the network is also well documented in the report.

The concept of social capital is one that has opportunity to be applied on a local level within Guilford County. The fire service is used to providing assistance through mutual aid and automatic aid within Guilford County. This practice requires almost daily interaction between the various districts. The departments train together as well as respond together. The Fire Chiefs and Chief Officers meet once a month to discuss operational concerns between fire districts and identify improvements that enhance firefighter safety and customer service.

In the AAR review (Appendix A) it is noted that every incident listed uses mutual aid or automatic aid. It is also noted that there is an IMT established on all of the AAR's. The deficit noted on the AAR is the depth of command officers available to provide coverage should an event extend beyond a single operational period. In the cases studied,

it is noted that often times when the event extended beyond a single operational period the command staff would continue to serve through the second operational period. This has the consequence of personnel fatigue with the potential to compromise overall scene safety.

The TVF&R has established a response system for IMT's which has five teams deep with a rotating call schedule. The teams are available as a second out back up should an event extend beyond a single operational period or an incident occur that requires more than a single team. Each team has a fully staffed assignment of positions and is self supporting (Rubin, 2005). The TVF&R has been able to increase the human resource pool by adopting some non-traditional positions that involve public stakeholders who often serve in non-public safety roles. This concept has allowed TVF&R to expand the number of teams and ultimately the number of trained personnel available for response. The essence of the team is based upon strong group coordination and training.

Similar resources exist within Guilford County, however the leadership is currently lacking to organize a formal program. The Guilford County Sustainable IMT Survey (Appendix C) indicates the trained personnel exist to meet the level necessary to establish a formal local IMT. Additionally, departments indicated a willingness to participate in a local IMT if a program were established. Furthermore a willingness to train additional staff to the necessary level was also indicated on the survey.

The concepts that were studied in the literature review and the guidance available through the FEMA manual (FEMA, 2008) provides a strong foundation for establishing a network capable of supporting a local IMT. The willingness of the fire districts to

participate in an IMT would then become a key component to moving ahead with a local IMT program.

Recommendations

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

A defined leadership team should be established to provide the necessary guidance for the IMT. It is recommended that the leadership team include members of departments actively desiring to participate on the team. This would establish or enhance the personal relationships for the purpose of gaining the social capital and personal trust.

An in-depth review of each fire department training records should be conducted to establish an eligibility list of those individuals who have been trained and credentialed to meet minimum standards for NIMS compliance. This would ensure properly trained personnel serve on the IMT.

Position specific job descriptions should be developed with expectations and training guidance defined. This matrix could then be used to establish the proper role for the fire department staff members to serve on the IMT. This would ensure that resources were utilized according to their level of training.

Consideration should be given to recruiting outside of the fire service circle. This would increase the human resource pool and also diversify the skill set and expertise available to the IMT.

A memorandum of understanding (MOA) should be developed for those members wishing to serve on an in county IMT. The MOA should be patterned after the current mutual aid agreements which defer liability to the home fire district where the event

occurs. Additional language should be included which addresses LODD, injuries and other personnel considerations as well as the operational considerations.

The organizational benefits realized to all agencies would be the consistent availability of a Command and General Staff available to fill the role of an IMT. This would allow for major events to be staffed appropriately with well trained well qualified personnel. This would also allow for redundancy in the IMT role, eliminating the need for a single individual to be committed to a role for multiple operational periods. By jointly supporting the team with multiple agency representatives the burden associated with a single agency deployment are greatly reduced.

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Appendix- A
After Action Review
2005-2010

**After Action Review
2005-2010**

Exercise ID #	Exercise Name	Number of Operational Periods	Use of allied agencies and mutual/automatic aid	Use of IMT	Identified issues with IMT
008-026-009	EOC/CCC	1	Yes	Yes	None
005-020-009	KSA	1	Yes	Yes	None
006-026-007	Hurricane	2	Yes	Yes	Depth of staff for ops. period
006-020-006	Guardian Angel	1	Yes	Yes	None
001-026-005	Terrorism	1	Yes	Yes	Depth of staff for multiple sites

Incident ID #	Incident Name	Number of Operational Periods	Use of allied agencies and mutual/automatic aid	Use Of IMT	Identified issues with IMT
003-028-010	HP Tornado	2	Yes	Yes	Depth of staff for ops. period
010-027-009	Tanker rollover	2	Yes	Yes	Depth of staff
005-008-008	GSO/COL Tornado	2	Yes	Yes	None
009-004-007	Landfill fire	1	Yes	Yes	Depth of staff
012-029-006	Tanker rollover	2	Yes	Yes	None
011-001-006	Comm. Fire	5	Yes	Yes	Depth of staff for ops. period

Guilford County AAR's are classified as For Official Use Only (FOUO) by NC General Statute. Therefore, the author has used fictitious ID numbers for both exercises and incidents. To review AAR's used for this project a written request must be submitted to the author stating the intended use of the AAR. Upon approval by Guilford County officials, the AAR will be cross referenced and identified for review by the requesting agent. For the purpose of this ARP only the information relevant to Incident Management Teams have been used for this ARP.

Appendix B

Sample Survey Instrument

Guilford County Sustainable IMT

April 2010

Guilford County Sustainable Survey IMT April 2010

1. Please indicate the size of your agency.
 - A. 0-40 members
 - B. 40-60 members
 - C. 60-80 members
 - D. 80-100 members
 - E. 100 or more members

2. Please identify the minimum level of training for your agency FF/Driver. (circle all that apply)
 - A. NIMS 700
 - B. NIMS 100
 - C. NIMS 200
 - D. NIMS 300
 - E. NIMS 400
 - F. Command Staff (i.e. Planning, Operations, Logistics, Finance, IC)
 - G. Other – Please define

3. Please identify the minimum level of training for your agency Lt. / Capt. (circle all that apply).
 - A. NIMS 700
 - B. NIMS 100
 - C. NIMS 200
 - D. NIMS 300
 - E. NIMS 400
 - F. Command Staff (i.e. Planning, Operations, Logistics, Finance, IC)
 - G. Other – Please define

4. Please identify the minimum level of training for your agency Chief & Chief Officers (circle all that apply).
 - A. NIMS 700
 - B. NIMS 100
 - C. NIMS 200
 - D. NIMS 300
 - E. NIMS 400
 - F. Command Staff (i.e. Planning, Operations, Logistics, Finance, IC)
 - G. Other – Please define

5. In the past 5 years has your agency experienced an event that would have benefited from implementing an IMT to support the role of the Incident commander?
 - A. Yes
 - B. No

6. In the past 5 years has your agency experienced an incident in which an IMT was established to support the role of the incident commander?
 - A. Yes
 - B. No

7. In the past 5 years has your agency experienced an event that extended beyond a single (12 hour) operational period?
 - A. Yes
 - B. No

8. Does your agency currently have available resources and staffing internally to deploy your own agency supported IMT?
 - A. Yes
 - B. No

9. Does your agency currently have available resources and staffing internally to support an internal IMT for multiple operational periods?
 - A. Yes
 - B. No

10. Would your agency be willing to be part of a county-wide IMT available for deployment to a multi-operational period event (assuming your district is not impacted)?
 - A. Yes
 - B. No

11. Does your agency currently have staff qualified to fill the role of Command and General Staff positions within an IMT?
 - A. Yes
 - B. No

12. Would your agency be willing to allow participation in the training of personnel in the Command and General Staff role for use in a county wide deployment?
 - A. Yes

B. No

Appendix C

Guilford County Sustainable IMT

Survey Results

April 2010

Guilford County Sustainable
IMT

Q1. Please indicate the size of your agency.

Answer Options	Response Percent	Response Count
0-40 members	36.36 %	4
41-60 members	45.45 %	5
61-80 members	9.09 %	1
81-100 members	0.00 %	0
101 or more members	9.09 %	1
	answered question	11
	skipped question	0

Q2. Please identify the minimum level of training required for your agency
FF/Driver
(Choose all that apply)

Answer Options	Response Percent	Response Count
NIMS 700	100.00 %	11
NIMS 100	90.91 %	10
NIMS 200	90.91 %	10
NIMS 300	18.18 %	2
NIMS 400	0.00 %	0
Command Staff (i.e. Planning, Operations Logistics, Finance, IC)	0.00 %	0
Other - Please Specify	0.00 %	0
Comments		0
	answered question	11
	skipped question	0

Q3. Please identify the minimum level of training for your agency Lt./Capt.
(Choose all that apply)

Answer Options	Response Percent	Response Count
NIMS 700	90.91 %	10
NIMS 100	100.00 %	11
NIMS 200	100.00 %	11
NIMS 300	63.64 %	7
NIMS 400	27.27 %	3
Command Staff (i.e. Planning, Operations, Logistics, Finance, IC)	0.00 %	0
Other - Please Specify	0.00 %	0
Comments		0
	answered question	11
	skipped question	0

Q4. Please identify the minimum level of training for your agency Chief and Chief Officers
(Check all that apply)

Answer Options	Response Percent	Response Count
NIMS 700	90.91 %	10
NIMS 100	90.91 %	10
NIMS 200	90.91 %	10
NIMS 300	90.91 %	10
NIMS 400	90.91 %	10
Command Staff (i.e. Planning, Operations, Logistics, Finance, IC)	18.18 %	2
Other - Please specify	0.00 %	0
Comments		0
	answered question	11
	skipped question	0

Q5. In the past 5 years has your agency experienced an event that would have benefited from implementing an IMT to support the role of the incident commander?

Answer Options	Response Percent	Response Count
Yes	40.00 %	4
No	60.00 %	6
	answered question	10
	skipped question	1

Q6. In the past 5 years has your agency experienced an incident in which an IMT was established to support the role of the incident commander?

Answer Options	Response Percent	Response Count
Yes	36.36 %	4
No	63.64 %	7
	answered question	11
	skipped question	0

Q7. In the past 5 years has your agency experienced an event that extended beyond a single (12 hour) operational period?

Answer Options	Response Percent	Response Count
Yes	36.36 %	4
No	63.64 %	7
	answered question	11
	skipped question	0

Q8. Does your agency currently have available resources and staffing internally to deploy your own agency supported IMT?

Answer Options	Response Percent	Response Count
Yes	18.18 %	2
No	81.82 %	9
	answered question	11
	skipped question	0

Q9. Does your agency currently have available resources and staffing internally to support an internal IMT for multiple operational periods?

Answer Options	Response Percent	Response Count
Yes	20.00 %	2
No	80.00 %	8
	answered question	10
	skipped question	1

Q10. Would your agency be willing to be part of a county-wide IMT available for to a multi-operational period event (assuming your jurisdiction is not impacted)?

Answer Options	Response Percent	Response Count
Yes	100.00 %	11
No	0.00 %	0
	answered question	11
	skipped question	0

Q11. Does your agency currently have staff qualified to fill the role of Command and General Staff positions within an IMT?

Answer Options	Response Percent	Response Count
Yes	90.91 %	10
No	9.09 %	1
	answered question	11
	skipped question	0

Q12. Would your agency be willing to allow participation in the training of personnel in the Command and General Staff role for use in a county wide deployment?

Answer Options	Response Percent	Response Count
Yes	100.00 %	11
No	0.00 %	0
	answered question	11
	skipped question	0