

It's Not Easy Being "Small" in the Fire Service Without a Good Risk Analysis and Response Plan

BY NICHOLAS DeLIA

IT IS CRITICAL that you undertake some form of risk and hazard assessment to provide guidance for present and future fire department needs. This informally happens daily around the firehouse kitchen table. Our people often willingly share the frustrations and concerns regarding specific addresses and individuals they interact with. They may identify dangers or potential incidents they come across. While this information might be shared up the food chain, without a formal process in place, it probably will not make the investigation or research phase unless it is life-threatening.

Developing a formal community risk assessment is the first step in any community risk reduction (CRR) plan, community education plan, strategic plan, Standards of Cover effort, or Fire Act Grant process. It is critical that we do the research necessary to identify not only what we are doing but what trends are heading our way.

The final community risk assessment document is a direct reflection of the dedication and amount of effort and work it received. It can range from the most basic to the most thorough (Standards of Cover).

Inside Our Community Data

Yes, the kitchen table can be a starting point for an issue that needs to be investigated. However, the process cannot start and stop there. As with any good research, we need to ask basic questions: What? Where? Who? When? Why?

The first formal step is to review the documentation created by the department. Data is created for numerous reasons and requirements. The National Fire Incident Reporting System (NFIRS)-based Emergency Reporting

System or applications contain an enormous amount of data to be mined.

One issue that can develop, and often does, is bad data. The term "garbage in/garbage out" is a hidden danger in the data gathering process. It is critical that internal standard definitions and spellings are developed to express common situations and locations. The NFIRS training program is available to help with this process. Local issues and differences often impact the traditional NFIRS definitions. All reporting programs can export data in a Microsoft Excel or Google Sheets-based format. You may need to contact the vendor to determine how to do this. The upside of this process is the ability to develop the specific data you are looking for regarding your community and its issues.

The term in the business to determine specific issues is to create a "plus one" entry, the plus one being an additional digit you can add to traditional codes to document specific questions such as jurisdictional boundaries. If a road is on a jurisdictional board and you wanted to count how many times you went to that side of the road for mutual aid, you would add a digit onto the appropriate code.

The reporting software is basically a data management tool. It just sorts data based on programming provided by your vendor. If you ask any reporting or data management company what reports it can provide, the number is amazing. However, the quality of the data is critical.

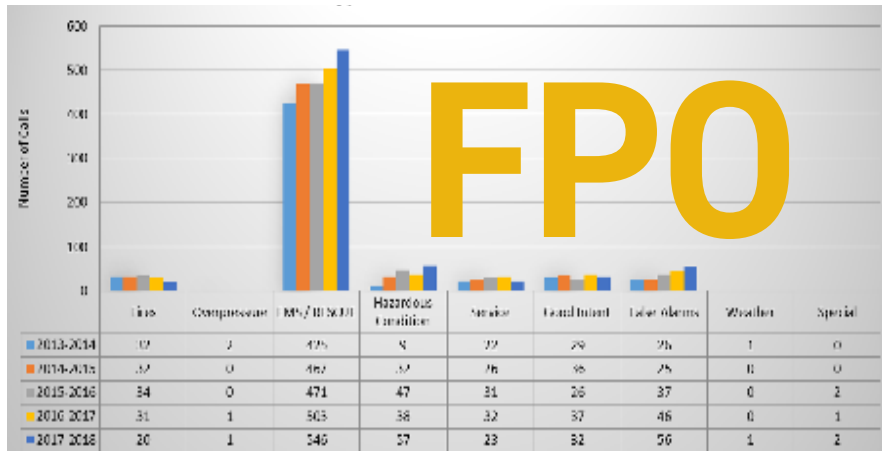
The NFIRS reporting program does nothing for misspelled roads, occupancies, etc. For example, say the incident is at 123 North Smith St. The entry could be any of the following: 123 North Smith, 123 North Smith St., 123 N. Smith St.

123 North Smith Street, 123 N. Smith Street, etc. While all reflect a version of the address, the program will see multiple locations, which is a problem when you use the Excel tools. It is important for everyone making the reports to use the same basic rules, spelling, and terms. If not, the researcher will have to try multiple versions and add them all up. Correct spelling is a basic skill that can wreak havoc with the system.

The good news is these programs can export the data in an Excel format. The processes are all different, so your vendor can explain how to do that. You may need to "clean up" the data. Excel has specific rules for doing calculations. There is an order and organization that needs to be in place for the program to work, including vertical alignment. However, once the program works, it can be extremely helpful. It can be used for everything from determining frequency of emergency type and repetitive locations to training and member participation levels. Once any issue or trend is determined, it can be visualized as a chart. I have found that the public, elected officials, and community leaders can better understand some of our points with basic visual presentations. Figure 1 shows the types of alarms the It's Not Easy Being Small Fire Department responded to between 2018-2021. Can you see any trends relative to our changes in service demand?

There are numerous ways to display the same information. In today's budget-conscious world, someone in the fire department knows how to use these tools—or should. One of the more interesting options is to use Excel and a conversion app to change the addresses to the latitude and longitude of the incidents.

Figure 1. Types of Alarms



Source: Printed with permission from Chief Jay Schall.

Many apps and Web sites are free or low cost. If you send that data to your GIS folks, they can produce a map showing all your responses. When you advance to the Standards of Coverage level, this will be critical for your response/planning zones.

While we are most familiar with our reporting systems, there is other data we will need. The fact that we spend between 60 and 80 percent of our time on medical calls sends us to those records for a similar review. Again, they are often data processing based and can be used for determining present and future risks. Several of our community partners will be able to share their results with us. They will be doing the same type of research when trying to get some funding. These collaborators would include the dispatch centers, police departments, EMS agencies, hospitals/public health, emergency management, and the American Red Cross.

One of our best allies in determining hazards is our emergency management colleagues. Many times, the fire department has inherited this responsibility. Many communities have local emergency planning committees (LEPC) due to hazardous materials requirements in SARA Title III. These groups will have researched chemical risks and hazardous industrial procedures. Many communities have emergency management plans. Again, these are great resources to gather information. Many communities belong to some form of regional councils of governments, chamber

of commerce, or state municipal associations. These organizations traditionally do research to help the local governments answer regional or statewide questions. Don't forget social service agencies. They have become more important to many of our citizens than ever before.

Outside of Community Research

At this point, we need to reach outside our comfort zone and get on the Internet. The U.S. Census is excellent for answering various questions relative to the people we protect and their domestic situation. The Census Bureau collects an enormous amount of demographic information. This information can not only assist you in knowing your community's population and characteristics, but it can also help prepare you for future services and assistance level demands. This information is available online (data.census.gov/cedsci) and can be used for all your required research for grants, assessments, etc.

For example, by using the census data, we determined that not only was our poverty level the highest in our town, but we were also higher than the county and state averages. This helped with a Fire Act grant we were also working on.

There are numerous other online resources. City-Data.com (city-data.com) is a good example. It is important that whatever source you are using, you must identify the dates the data was collected. Some of the information may be quite

dated. In the census's case, it may also be a prediction based on past years. Either way, it will give you a vision of your community.

Putting It All Together

Once you have gathered as much data as you can, it's time to make an outline and begin filling in the blanks. You may be able to use a previous assessment to help you sketch out a plan. If not, there are many examples of research projects in your community. Most communities have had to do similar work for grants or other programs. You may find free examples or tutorials on the Internet. If all else fails, go back to the five questions: What are the hazards? Where are the hazards? Who does the hazard endanger? When are the hazards most dangerous? Why are they dangerous?

Once you have a clear picture of your community's hazards, you can begin a CRR plan. As a reminder, the five "Es" of CRR are Education, Engineering, Enforcement, Economic Incentives, and Emergency Response. The use of these concepts is more important to small communities than large. When you're small, you can't often overcome the problem by just calling for more help during the emergency. You need to prevent and proactively control the emergency beforehand. Be as prepared as possible and take as many steps as possible to prevent loss of life and property.

Response Planning

In many parts of our country and the world, for that matter, there are not enough human resources assigned or provided to overwhelm the fires and other emergencies we experience. Regardless of whether the fire department is career, paid on call, or volunteer, resources often do not meet the community's risk. Once we determine the risks and hazards our community has, we next need to create a way to successfully handle those issues. While in many regions of the country local mutual-aid resources may all offer the same level of service, in other districts it's the tale of the large and small or haves and have nots. As departments get bigger, they are often resourced more effectively and, as a result, will be

called on to help their neighbors more.

The required planning to protect your community will present issues you need to be ready for and potential inadequacies. Some of these issues can be quite emotional. For example, department pride may not be in line with department capabilities—you can't do what you used to, or you may need help but your neighbor doesn't need or want your help in return. Difficult decisions are required to bring the type and number of resources you need. The planning process may risk insulting partners or injuring longstanding relationships. Keep in mind two critical concepts: (1) You need to provide adequate protection for your citizens and their guests and (2) there is a job for everyone in the fire service.

For example, a two-person ladder company may not be the best choice when looking for large interior searches, extensive overhaul, etc. It is fine though for master stream task forces where the unit is specifically called for setting up and delivering high-volume streams. A small team on an engine can be the sprinkler support unit to supply the system. Some departments provide a great deal of EMS in their districts. These units could do the same for you while you and other partners are dealing with a larger fire event. This would save the next structural unit for the main event.

In some areas, local pride requires the home team to arrive on scene before calling for help. While this "old school" concept is changing across the landscape, it's not the norm in many communities. In my case, during a safety committee meeting, the chairman suggested our numbers weren't what they used to be and we should call for help earlier. This was a landmark moment not only for our department but also for the region. We subsequently initiated a procedure where if the dispatch center received a second source reporting the fire, additional resources would be started. The initial motivation was the OSHA two-in/two-out requirement. Soon after, however, the additional resources were improved to better support and protect our personnel and citizens. Ultimately, this concept spread throughout the region and state. In addition, the dispatchers were empowered to escalate any call where their instincts told

them additional resources would be needed.

While there are standards that make recommendations for how many firefighters are needed for fires by populations, etc., I would suggest local departments conduct their own tests. Members of the Colchester (CT) Fire Department did this as part of their strategic planning. They ran a series of training drills covering the types of fires they had responded to in their community. They then looked at the effect on success based on resources applied. They determined, particularly in tanker-required events, that the needed members surpassed the national standards. They also used their mutual-aid partners to prepare for potential responses.

You may find yourself in a predicament where you just don't have the resources with a particular skill set you need, such as shipboard firefighting or industrial firefighting for production facilities with large flammable liquid or hazardous materials usage. These types of operations are often located in rural or limited-population communities for numerous business reasons.

Several years ago, a fire occurred on a nuclear submarine while it was in a shipyard for a major overhaul. An arson fire on the ship created a significant and very challenging emergency. This event stressed the local mutual-aid system. The mutual-aid partners were challenged by the complexity and risk of the event. In the end, a firefighting team trained in submarine shipboard firefighting from Submarine Base—New London responded from three states away to assist and ultimately successfully resolve the incident.

This event impacted the planning for shipboard firefighting across the country. Mutual-aid plans were tested and modified as needed. Any high-risk/low-frequency event should be planned for the same way: (1) Train our people to take initial steps to enable a positive impact and (2) call the right resources early to increase the possibility of success.

Some of the most difficult experiences are the meetings to review and possibly reset your run cards or computer-aided dispatch (CAD) assignments. Change is hard, and external relationships may

have existed for many years. Start by assembling a team to review the existing assignments. Some of the issues involved would include the following:

- Changes in your community's risk profile.
- Changes in your equipment and staffing.
- How your mutual-aid agencies have done helping you.
- Changes in mutual-aid equipment and staffing.
- How your response partners play with you and others.

Always start with the community's hazards and risks. Set up a basic spreadsheet with the hazards and changes on the left and then columns by type of resources to the right. Do we have the resources needed for any new or modified hazards such as a new process at the steel mill, chemical plant, or amusement park? The resources could be equipment or personnel.

Fill in the worksheet highlighting the areas that are inadequate. Make your next actions kind. Don't send an e-mail or leave a phone message for a neighboring chief saying his department no longer meets your needs. Meet privately with your neighbors to determine or confirm what they can offer you. Again, there is an assignment for everyone. Don't be surprised if you get invited to one of those meetings. In my experience, working together to do regional planning and purchasing provides not only interoperable equipment and assignments but a sense of collaboration.

Once you have filled in the blanks with your local resources, fill in any slots with the qualified resources from closest to farthest asset. If you are planning on calling a resource that's more than 10 to 15 minutes away, either plan on calling them earlier than your normal request tempo or relocate them on the previous alarm. In both cases, earlier is better.

Let's address a few common response designs that have positive and negative impacts:

The Friends and Family Plan. You call your buddies regardless of their capabilities or response numbers. While this is great for friendships, it may not work out depending on the needs of the incident.

We Go, You Go. This is like the friends and family plan but includes that when you are requested and your buddies aren't, you manage to get them involved or vice versa.

Go Big or Go Home. You call everybody and their sister to come. This usually results in very large assignments. In our case, it was an addition of three engines, two ladders, an additional FAST, a rescue, and EMS. That would engage seven additional departments and the EMS resources. This was very hard to manage.

The Odd Couple. In some cases, you might call weak companies and strong companies not to hurt anyone's feelings. This works until the strong companies are tied up and you are left with well-intentioned weak companies with limited experience.

There are exceptions. One is if you are in a rural environment where water movement is a primary goal. Here, a two- to three-person tanker/tender crew can have a huge impact. Again, what missions need to take place?

We went through all these designs and more. We spent many years modifying our system until we were happy, and it has been modified again since I retired. We found that smaller bites and an increased request tempo based on the reported or actual situation worked the best for us.

The system basically was this: A single 911 request for service would bring a standard community response. If the dispatcher received any form of second source or incident confirmation, a backup team (minimum two interior firefighters), a FAST, a second engine, an ambulance, and a medic were added to the assignment. At any time, anyone in the system, including the dispatcher, could upgrade the assignment to whatever level they thought was needed. The subsequent first alarm and all following alarms received an additional engine, a ladder, and a specialized unit (rescue, FAST). We found calling for smaller response packages more often was easier to manage and therefore safer.

However, our personnel were very aggressive when it came to using the system. In some cases, first alarms were requested before any units arrived on scene if the intelligence supported it. Our cards were regionally designed so no one community was getting stripped. We would only touch

Figure 2. Structural Fire Call

GROTON CITY FIRE											MAP			
DIST.	TYPE: STRUCTURAL ALARMS					GEO			AMB GAA		PD CITY			
G	RESPOND TO SCENE										MOVE UPS			
ALARM	CKT 31											COVER		
NO	ENGINES		TRUCKS	RESCUE	BACK-UP	OTHER	FAST	AMB	UNIT	LOC	UNIT	LOC		
BOX	G11	G21		G15	G27									
BOX +	G11	G33					RR	GAA	MEF					
1ST	G29	G62	PAGE	NVE G15	G67			GAN		G42	CO1			
2ND	G52			G55	G77			CAN	NL	REH	G42	CO1		
3RD	R11			R23	R27			IMT	MDH	AMB	G42	CO1	W31	CO1
4TH	W21			W15	W57			W94	NOR		G42	CO1	W31	CO1
5TH	B21			B25							G42	CO1	W31	CO1
6TH	M11			M15	M27						G42	CO1	W31	CO1
3RD ALARM MOVE UP CO. 1 W21,W15,W57,W94.											4TH ALARM MOVEUP CO.1: B21,B25.			
5TH ALARM MOVE UP CO.1 M11,M15,M27.											6TH ALRM MOVEUP CO.1: P21,F15.			
7TH ALRM P21,F15 TO SCENE, MOVE UP TO CO.1 T13,T45 TO CO.1											8TH ALRM TO SCENE: T13,T45.			

Source: Groton Emergency Communications Center.

a community once and designed packages that included their normal mutual-aid partners. We found they worked best because they knew each other and often had the same frequencies. As mentioned before, we would move them up as a cover company one alarm before their assignment. We also assigned one company as the permanent hometown host to cover our station and manage the mutual-aid coverage. They

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would not only cover calls but also function as a task force leader when needed to handle other emergencies with the mutual-aid resources and communications. Figure 2 is an example of a structural fire call.

Ultimately, our citizens and elected officials have expectations as to how well we will perform. Often, community members getting tours of our stations wanted to know where all the firefighters were. It is important that the elected officials and public understand what they can expect. This includes response times, average number of interior personnel coming, and why there are so many fire trucks from

other communities in the street. In many cases, you will only get what you get for financial or community support. Often, they're not being mean; they just can't support increases.

Here is the most important concept: When you are small, you have to be smarter, better trained, better equipped, better controlled, and better managed regarding firefighter safety and survival than most departments. You will not have the physical, mental, and tactical reserves of larger departments to cover when things go bad. Build the best system of mutual aid you can and train together. Call for help early and often and create the safest system possible. ■

NICHOLAS DELIA is a 40-plus-year fire service veteran and the chief (ret.) and fire marshal of the Groton (CT) Fire Department. He is certified as a Connecticut State fire officer IV, fire instructor II, safety officer, and hazardous materials technician. DeLia has also served in leadership roles in state and regional hazardous materials response and urban search and rescue and incident management teams. He is a senior fire service consultant for JLN Associates and a contract instructor for community risk reduction programs at the National Fire Academy. DeLia has a BS in fire service administration from Empire State College.

Nicholas DeLia will present "It's Not Easy Being Small: Risk Assessment and Response Planning" at FDIC International in Indianapolis, Indiana, on Friday, April 19, 2024, 10:30 a.m.-12:15 p.m.