



Greensboro Fire Department Vulnerability Assessment Program

PRE-FIRE PLANNING CASE STUDY

The Opportunity

In 2014, the Greensboro Fire Department experienced a near miss structural collapse during a commercial building fire. The independent review that followed produced a series of action steps, one of which was a recommendation to revise the department's pre-planning process.

The Action

Even before the independent review, leaders within the Greensboro Fire Department knew that the agency was only scratching the surface of what was possible in pre-planning, and in turn what the department was providing to responding companies. While the department was conducting regular fire prevention inspections, the ability of company and chief officers to use this information was limited.

The Outcome

To create what is now called the *Greensboro Occupancy Vulnerability Assessment Program (GOVAP)*, the department used both existing data (open source/publicly available and fire prevention inspections) and input from companies performing annual evaluations on each of its commercial structures.

DEPARTMENT INFO

GREENSBORO FIRE DEPARTMENT

POPULATION SERVED: 291,035

TOTAL UNIFORMED PERSONNEL: 588

TOTAL CIVILIAN PERSONNEL: 19

FIRE STATIONS: 27

ISO CLASS: I

GOVERNANCE STRUCTURE: MANAGER/COUNCIL

HIGHEST LEVEL OF EMS SERVICE PROVIDED: BLS

ANNUAL BUDGET: \$59.2 MILLION

Introduction

History is filled with necessity-driven innovations, some become universally identifiable, like Henry Ford’s automobile or Thomas Edison’s light bulb. And the fire service is no different – Hugh Halligan’s now eponymous “halligan bar,” for example. Other innovations are developed by inspired people coming up with solutions to specific problems. While perhaps not as famous, these innovations may be just as important, particularly when driven by crisis. That was the situation facing the Greensboro Fire Department in 2014, following a near-miss structural collapse at a commercial building fire, an incident that trapped four firefighters. Three of the firefighters were able to rescue themselves, while the first-arriving officer needed multiple Rapid Intervention Crews RIC to successfully extricate him from under steel roof trusses.

The Opportunity

In the aftermath of the 2014 warehouse collapse, the department conducted a review that resulted in lessons learned and recommended action steps. One major realization was that the department needed to split its pre-planning process:

- The fire prevention division would continue to complete detailed and comprehensive occupancy inspections on the city’s nearly 6,000 commercial structures.
- Operations companies would conduct inspections/site visits to gather pertinent information that might affect strategic and tactical decision-making.

It is important to note that the department already had a basis to work from: the total number of commercial occupancies, a regular inspection schedule, and a records management system (RMS) that was already storing these data points.

The Action

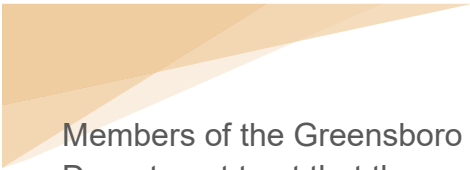
Using department members and staff with expertise in geographic information systems, the department’s RMS and computer-aided dispatch (CAD) systems, a department-wide working group spent months developing a process now called the Greensboro Occupancy Vulnerability Assessment Program (GOVAP), whose goals were to:

- 1) Gather and maintain a simple set of information – only that which is most pertinent to a safe and effective response – through annual site visits to each commercial structure in the city
- 2) Highlight information that, if known, would change how initial companies and incident commanders operated during an incident
- 3) Communicate this information in a fashion that allows it to be understood and applied in the task-saturated environment of a commercial fire response

The department meets these goals through a 12-question evaluation tool provided to companies; defined, consistent entry into the RMS; and map icons and alerts on the department's in-apparatus mobile computers for use while responding, or after arriving on scene of a working fire.

The Outcome

Greensboro emphasizes the simplicity of its data-gathering approach and its use of alerts and icons to highlight exceptions. Only information that might impact, change, or influence the first-arriving company's decisions, or initial actions are provided as alerts. Company and chief officers know to look further if these are present. The department uses visual cues, as opposed to text-



Members of the Greensboro Fire Department trust that the work they do each year has real-world impact, benefitting companies as they respond to incidents city-wide.

heavy information, to reduce the noise during the high stress moments at the beginning of a working fire. Again, if a structure has no unique features, issues, or challenges, then no prompt is given.

At the company level, site visits and associated data lead to the GOVAP scores being re-calculated annually with relative scoring for each structure, based on that year's site visits, and after each update

cycle, companies know that alerts may change. While this part of the process worked, there were remaining challenges:

- How do they maintain and further develop GOVAP and ensure its long-term success, because maintaining and supporting the application long-term is critical to supporting operations?
- With more than 100,000 data points, the department's CAD and RMS have limited ability to push additional preplan information to apparatus-mounted mobile data terminals (MDTs), therefore how can the department expand what is always available?
- Once the initial GOVAP training occurred what would be the training cycle for both newly promoted members and for those who might need support or assistance?

While the department is working through these challenges, they are aware of and acknowledge the work required is an important first step and Greensboro encourages other departments to at least investigate the opportunity to provide company and chief officers more information about the buildings to which they respond.

Tips for Replication

- *Ensure decision-makers and end-users are included in the development process:* tied to this is the need to answer the questions: what are we doing currently for pre-incident planning, what data-gathering capability do we have and how do we plan to distribute this to members in operations?
- *Simplicity is key:* whether it's data gathering during operations site visits, or the way data are presented to companies as they respond, make sure to ask members what they need and want both initially and post-implementation.
- *Build and maintain trust in the process:* allow for feedback and ensure that the department is willing to change, or at least seriously consider modifying, its pre-planning process based on that feedback.

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