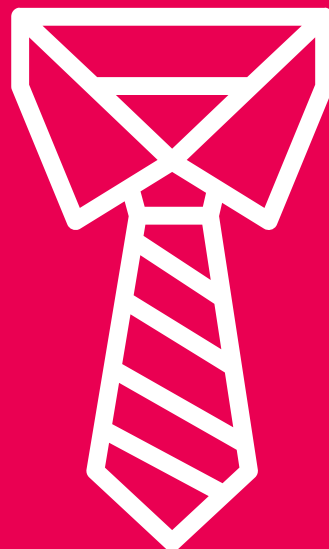# An Integrated Approach to Resource Management for Public Safety and Emergency Management

Explaining resource management: objectives and frameworks

No doubt you've heard this before, but it bears repeating. In the midst of an emergency, getting the right resources, to the right place, at the right time can prove the difference between life or death. Those are the stakes of resource management in a nutshell.

So what's resource management actually? It's the organizational function dedicated to coordinating and overseeing tools, processes, and systems that help provide incident managers with appropriate resources in an appropriate timeframe during a crisis. Yet resource management has wider applicability outside of a purely emergency management context. Just think about it, all public safety and emergency teams can benefit from better allocating their resources whether for business-as-usual work, special projects, or incidents.

That being said, some of the best resource-handling frameworks have emerged out of emergency management. The frameworks set out to help organizations improve operational flexibility and enhance capacity. The ultimate goal being to help teams problem solve quickly (but not carelessly,) a necessity in emergency response. The frameworks do so by offering a series of best practices that emergency management and public safety teams, whether working individually or in concert with mutual aid partners, can deploy to effectively respond to incidents.

In the U.S., for instance, the National Incident Management System (NIMS,) developed by the Department of Homeland Security in the early 2000s, lays out a standardized approach to incident management. The approach is based on a few core concepts: A consistent method for identifying, acquiring, allocating, and tracking resources.

Standardized systems for classifying resources to improve the effectiveness of mutual aid assistance agreements.

Coordination to facilitate the integration of resources for mutual benefit.

Use of all available resources from all levels of government, nongovernmental organizations, and the private sector, where appropriate.

The integration of communications and information management elements into organizations, processes, technologies, and decision support.

The use of credentialing criteria that ensures consistent training, licensing, and certification standards.

NIMS essentially boils down to proper planning before an incident, during which time organizations should inventory and categorize their resources by kind and type, including size, capacity, capability, and other characteristics. The resources themselves include the following:

Equipment or assets

People (both staff and volunteers); they have:

Special expertise

Information about the threats or hazards

Communications and warning technologies, including fire protection and life safety systems

Materials and supplies

Funding

Facilities

The challenges of resource management in a business-as-usual context

While certainly helpful, NIMS and other frameworks are just that, theoretical constructs. In order for teams to actually drive operational efficiency and accelerate the pace of effective command during emergencies, they will need to turn the theory into practice, not only before crisis strikes but also in the context of business-as-usual work and special projects. To do so, they will have to overcome some common operational challenges.

For one, business-as-usual work, even when central to the well-functioning of an organization, often remains far less transparent to decision makers than special project work. In consequence, business-as-usual work gets treated as unproductive and expendable, while special project work is perceived as lucrative and time sensitive. Case in point: we often see major projects cannibalizing available resources from business-as-usual work.

Unfortunately, this fundamental lack of understanding of most business-as-usual tasks is only one of the many challenges hindering the effectiveness of resource management. Another: the fact that geographically-dispersed teams generally experience greater difficulty in coordinating resources. What's more, teams often deploy the wrong resources to a project and end up wasting crucial time. The same goes when communication flows are inefficient and resource documentation is inadequate.

Often at fault is poor resource capacity planning, which leads to poor resource allocation. The best resources get overbooked and overburdened with trivial projects by managers who don't understand core project demands. The overall failure of resource optimization in turn creates inefficiency and confusion.

So what can be done? Simply increasing the visibility of business-as-usual work is a start. But how? In most existing resource management solutions, business-as-usual work often gets notated as if it were just another project. Tasks and activities need to be clearly laid out, so as to justify resource allocation for each business-as-usual activity.

Further challenges: multi-agency response to large-scale emergencies

The resource management challenges listed above only get exacerbated in an emergency management context, where incidents happen (and evolve) quickly. Without proper planning, teams will find themselves overwhelmed by the volume of unplanned resource requests; and resources themselves will be shuttled along without proper transition periods between deployments.

In the case of disasters, teams also have to avoid the negative consequences of resource convergence, when people, goods, and services are sent into an emergency zone all at once. Convergence can lead to resource congestion, which only hinders the delivery of aid.

Another wrinkle: in the case of large-scale emergencies, multiple agencies will usually respond in concert. Emergency response providers can include a mix of federal, state, and local public safety, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel agencies, and authorities. That's quite the mix.

Each one of those responding agencies brings with it its own set of competencies, experiences, and systems to bear in an emergency response scenario already marked by a high level of complexity. Here are some other multi-agency, emergency response resource management challenges:

Poor inter-agency communication. Technical issues make it exceedingly difficult to exchange information between emergency agencies and with field personnel. For instance, during large-scale emergencies, multiple agencies will use the same radio channel, causing severe network strain. Also, it's natural that individual agencies will have developed a unique set of terms to describe emergency situations. Unfortunately, using terminology that means something fundamentally different to another agency makes communicating hard.

A lack of shared situational awareness.
Agencies rarely share information through a common platform; and the platforms they do use tend to be essentially locked down from other platforms, preventing external access or easy integration. Instead, agencies and individual teams rely on verbal communication, even during major emergencies when time is scarce and face-to-face interaction often impossible (and undesirable). An overreliance on face-to-face interaction can also create information overload for response actors. And often, the right information doesn't get to the right person at the right time or doesn't get prioritized when it's most pressing. Emergency situations are by nature highly fluid and changeable, so information flows need to keep up in order to be effective.

Failure to understand external organizational structures.
When partnering under extreme time constraints, individual practitioners rarely stop to calmly evaluate the responsibilities, needs, plans, and tactics of participating agencies. The lack of mutual understanding can easily lead to efforts being duplicated and time lost. Additionally, emergency agencies often bring slightly different ideas and plans to the emergency zone. Without inter-agency coordination ahead of time and effective communication during the crisis, those plans won't meld, creating misunderstanding and recrimination.

The role of resource management technology in improving collaboration, communication, and situational awareness

Effective collaboration requires a clear understanding of roles, responsibilities, and, of course, resources. Or as James Carfano puts it: "Indeed, the sheer number of responders dictates the need for a more integrated structure to coordinate and prioritize the activities of multiple response entities."

Teams need a strong, shared understanding of the situation at hand. But achieving that level of situational awareness can be nigh impossible without the right resource management tools, especially for teams who rely on verbal interactions and manual processes. Instead, teams should look for a robust, integrated resource management system to help increase operational effectiveness, achieve shared situational awareness, increase the speed of command, and enhance security. The ideal system should have the following features and functionality:

Mapping.
Location tracking of resources in relation to assignment locations helps teams find the closest available resources quickly.

Resource allocation.
Helps teams better engage with staff and volunteers to confirm availability and assign roles via email, SMS, and/or voice recording.

Mobile app.
Mobile-optimized software helps teams communicate with staff and volunteers wherever they are.

Certification and documentation management.
Ensures that documents are managed and kept up to date. Teams won't have to worry about staff or volunteers with expired certifications.

Rostering and scheduling.
Enables teams to create flexible resource assignment structures that can be filled and activated when needed.

But when it comes to what's actually available on the resource management technology market, procuring teams will run in to some significant limitations. On one end of the spectrum, you'll find response organizations repurposing large-scale enterprise systems, like Enterprise Resource Planning (ERP,) computer-aided dispatch (CAD), and/or asset management solutions, for their more targeted resource management requirements.

As a result, resource management gets attached to a larger, enterprise-wide system, one originally procured and deployed to solve another business challenge. By design, that kind of system tends to be heavy, complex, and inflexible. Extending functionality for purely resource management purposes can be complicated. And what's more, information modalities tend to be unilateral and rarely mobile friendly.

Additionally, enterprise-wide systems are usually cost prohibitive. Ongoing subscription costs easily run up in the millions and even tens of millions of dollars, including hidden costs for protracted set up and complex implementations.

On the other end of the spectrum though, you'll just find almost entirely manual tools, like Excel spreadsheets. When it comes down to it, there are very few, cost-effective, multi-functional offerings in the middle.

Noggin OCA helps organizations achieve their resource management objectives without breaking the bank

A stand-alone, curated resource management solution, Noggin OCA is built specifically for incident and emergency management scenarios and therefore operates independently of other large enterprise systems. OCA also provides the following core resource management benefits:

Stands up quickly.
Simple implementation gives you an instant return on investment. The system also easily imports your existing data, contacts and assets, including valuable, supplementary information like location, capability, etc.

Drives operational efficiency.
Flexible rostering helps your organization manage business-as-usual work as well as large-scale incident response. In-system workflows can be configured to your specific processes. The system also enables users to automatically upload data, tasks, and communications, as well as set resource assignments. Additionally, OCA integrates comprehensively with other solutions, like communications, HR, and asset management systems, as well as external alarms and sensors software.

Achieve shared situational awareness.
OCA comes equipped with strong geo-spatial capabilities and allows teams to visualize what their resources are doing (and where they're going). Mobile optimized, OCA offers multiple, out-of-the-box communication options, including SMS, push notification, emailing, conference calling, etc., with built-in acknowledgements, escalations, and status reporting.

More cost effective.
And finally, unlike with most enterprise systems, the SaaS-based OCA is purchasable for a relatively small user base, for teams who want to scale their use up (potentially during known disaster seasons). What's more, the cost-effective system has no hidden costs for support and delivery. And Noggin takes care of system maintenance on its end.

A targeted resource management solution can help transform the resource management function at your organization from an imprecise art to an exact science. And a mobile-optimized, resource management system like Noggin OCA, rather than time-insensitive, face-to-face status meetings, can specifically enable your responders to report back on their tasks and activities, whether in a business-as-usual context or at the height of an emergency.

In either scenario, getting real-time resource information quickly and efficiently can bolster operational effectiveness, improve situational awareness, and lower costs. In the context of a disaster, it can also save lives.

Citations

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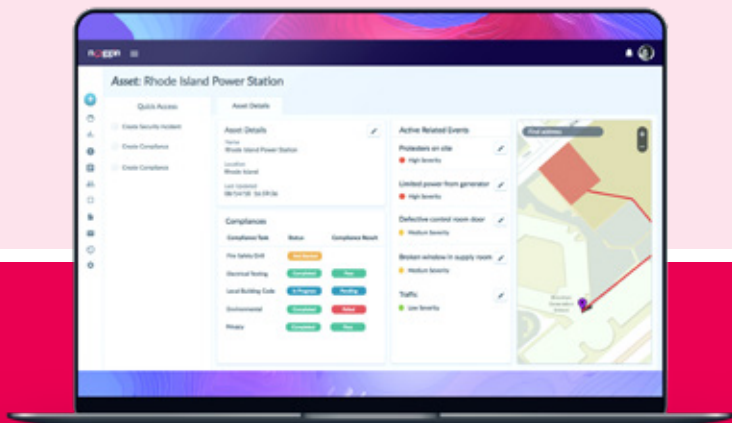
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