



Developing Organization Resilience through Asset Management to Respond to COVID-19

By Dr. Christian Roberts, FIAM.

The world was not prepared for the COVID-19 pandemic. Infrastructure (transportation, utilities, government, education and healthcare facilities) have had to rapidly move to new ways of management and delivery of essential functions to continue to provide critical services.

Natural disasters impact assets, recovery is restoring asset capabilities. Pandemics impact the organizations asset management capabilities – its people. Recovery is restoring management control and organizational capability.

In many instances, existing Continuity of Operations Plans (COOPs or Business Continuity Plans) have failed to provide the direction and guidance necessary to

respond to the pandemic. The reason? Most critical infrastructure COOPs focus on response, recovery and restoring service following natural disasters. In the case of natural disasters, the predominant impact is on the organization's assets. Floods, fire, earthquakes and terrorism typically impact an organizations ability to continue to provide services due to fleet, facilities, infrastructure or systems being disabled.

This is not the case with pandemics. In these instances, it is the organization's asset management capability – predominantly its people – that is significantly impacted. Without clear management controls, processes and policies in place, the organization lacks resilience if it is impacted through temporary loss of staff, or worse if the staff loss is permanent. Response, recovery and restoring business capabilities quickly, as

well as introducing changes to how we operate and maintain assets requires an established framework that aligns asset intervention and management actions to the (revised) service objectives and goals of the organization.

The Interface to Asset Management

Asset Management is a process of resource allocation and optimization - *identifying the right work, to do at the right time and completing the work right to achieve the right levels of service.*

At its heart asset management is about establishing controls to reduce risk and deliver critical services safely, efficiently and effectively. For a control to be effective the organization needs to understand:

- **What** we are trying to control (a risk)
- **How** we will control it – the action
- **Who** will be responsible – the owner

A key outcome of an asset management program is establishing practices to ensure controls are applied consistently and effectively. Practices result in long-term plans for managing risks to asset and organizational performance.

In this context, asset management supports continuity of service beyond the normal operating situation. A robust asset management framework considers the degraded and stress conditions – managing asset risks and maintaining and/or recovering organizational performance. The framework also supports management of exceptional events – including events impacting assets, e.g., natural disasters; and impacting the organizations ability to manage assets, e.g., pandemics.

During the response phase of an exceptional event, having a clear program of how to manage critical infrastructure and an established support capability is essential to an organization’s continued response capability. A pandemic outbreak puts both the society and the response teams at risk. Establishing controls and having clear management plans are essential to both managing the risk and enabling continued recovery.

Reviewing Current Organizational Resilience

Healthcare experts agree that the world can expect a second wave of COVID-19 and possibly more, until a vaccine is developed. To better prepare organizations for future events **NOW** is a good time to undertake a continuity capability review.

A continuity capability review will identify opportunities for improving operational resilience, identify gaps in current planned responses and support the development of *Continuity of Operations Plans*. It will enable rapid prepared response to a predicted second wave of COVID-19.

To improve resilience, organizations should fully consider the overall business functions including managing asset activities (maintenance and capital delivery) and asset management activities (strategic planning and marketing, communications, finance and legal).

A review should fully consider the overall business functions of the organization. In a mature asset management organization this should consider not just the *managing assets activities* (maintenance and capital program management and delivery), but also the *asset management activities* related to strategic planning, service planning and marketing, corporate affairs/communications, finance and legal. The later is particularly important as without a program of communications, service planning and marketing customers are unlikely to return as quickly as they left. Similarly, given the current economic downturn because of the pandemic its vital to consider the financial situation and how to continue to both manage and take advantage of opportunities for government stimulus.

The first wave outbreak provides an opportunity for organizations to identify actions that have gone well and observe current gaps. The author recommends documenting the emergency actions that have been put into play during the current COVID-19 pandemic with a view of reviewing their effectiveness after services have been restored.

A Quick Guide to Continuity of Operations Planning

The US Federal Emergency Management Agency (FEMA) provides guidance on developing continuity of operations plans and FEMA's *Emergency Management Institute* provides introductory training for COOPs for pandemic influenzas¹.

As a bare minimum the author proposes developing COOPs to address epidemic and pandemic diseases – aligned to both FEMA and other global good industry practices. However, acknowledging the hurricane season for the Atlantic Basin is at the time of writing just days away, it is important to identify the controls and establish COOPs to address the 'perfect storm' of a natural disaster striking during a pandemic.

Other exceptional events should also be considered. The Federal Bureau of Investigation (FBI) reported cybercrime quadrupled during COVID-19², demonstrating the need to consider multiple exceptional events as well as the interface of these events impacting an organization simultaneously.

Separate COOPs may be required for different events but given the likelihood of interface an all-encompassing COOP that considers multiple scenarios is recommended. An appropriate COOP should include (aligned to FEMA guidance):

- **Purpose** – It should be clear whether the COOP is for a single exception or multiple potential exceptions.
- **Concept of Operations** – describes the system for monitoring for an event and the approach to mobilizing essential functions ready to respond; including incident control systems, key positions and responsibilities.
- **Planning Assumptions** – describes the assumptions on which the plan is based, including expected impact of event, rate of impact and expected recovery from event.
- **Monitoring and Response** – describes the monitoring process (including sources of information), alert levels and associated actions, immediate steps to mobilize response, including response teams, key personnel and communications.

- **Continuity Planning** – Assessment of remaining risk based on implemented continuity capability measures. For multiple scenario (multiple risk) this section should consider how each event impacts an already strained organization/infrastructure system.
- **Continuity Capability** – The overall plan should consider fully set out the management system for the organization. Mature organizations will have an established system in place, so the COOP can reference how this system can be implemented – including:
 - Essential Functions – describes the essential functions and references the management framework for these functions.
 - Essential Personnel – describes the key personnel and required skills and competencies.
 - Orders of Succession – describes a minimum of three-deep (recommended five) successors for essential personnel.
 - Delegations of Authority – describes the minimum three-deep delegation of authority measures for senior leadership.
 - Continuity of Services – describes any expected changes to customer levels of service
 - Continuity Facilities – describes the use of back-up or off-site facilities, or for pandemics moving to remote/home working
 - Continuity Communications – describes the communication channels and the orders of succession (should systems become unavailable)
 - Essential Information – describes the essential information necessary to support essential functions (or references information standards) and how these can be accessed
 - Records Management – describes the records that should be kept during the event (for example expenditures which may be recoverable).
 - Human Resources – describes the human resource plan during the event (which could include changes to working hours etc.).
- **Devolution of Control and Direction** – where appropriate the COOP should describe the processes for transferring operational control of one or more essential functions to a *last-resort service provider*. For pandemic situations – based on

organization risk – this should be considered for both recovery and restoration.

- **Test, Training and Exercises** – a plan is only of use if it has been tested. The COOP should set out the test and training plans to ensure operational resilience.
- **Restoration** – describes the process of returning to pre-event operations.

Strengthening Organization Resilience

From an asset management view point establishing Continuity of Operations Plans is only part of the picture. To fully manage risks and maintain organization performance the following activities are recommended:

Alert Levels

Alert Levels enables agencies to fully prepare for responding to and recovering from the event – enabling response plans to be timed to minimize impact and maximize personnel safety. For example:

1. **Alert Level 1 – Existence of Threat:** *Initiate work orders to check critical equipment that may need to be deployed to support essential services*
2. **Alert Level 2 – Threat Imminent:** *Implement response work force planning, prepare staff to move to staggered schedules, modified work crews, etc.*
3. **Alert Level 3 – Essential Services:** *Implement an adjusted maintenance schedule, completing essential maintenance only to support essential services.*

Management System

The development of a management system supports both continuity of operations, as well as continued improvement of operations. Establishing practices to ensure management controls are applied consistently – such that everyone is clear who does what and what is expected, even under an emergency event. It also enables on-boarding of new personnel quickly, by providing them the rule-book for the organization. A long-term benefit is that management systems enable continued improvement through process audit/review enabling changes that reduce cost, improve performance and reduce risks.

Rules-of-Roles

Supporting the management system organizations should create rules-of-roles guidance for essential personnel and enabling successors to step in rapidly. Also enables response teams and last resort support to

provide ready access and enable continued safe operations.

Improving Asset Information

Identifying essential equipment required to support threat response is critical. Having accurate asset and organization information – including physical attributes, condition, work status, stock inventory and financials – supports an agencies response and results in a safer work environment.

“...when we started to remove stops and switches (transformers, fuses, resistors, motors) it would be very helpful had we had a device list on hand...” ³

Understanding asset types and condition enables response with less site visits required. Identifying essential information and moving to remote collection – including SCADA, Internet of Things (IOT) and other devices also improves safe operation both during normal service as well as during response.

Essential Functions, Training and Review

With a management system and COOPs in place, agencies should work to train staff on plans for continuity of operations, including management policies and procedures that ensure the organization maintains a “ready” state at all times. Running periodic training exercises, including allowing successors to fully perform duties will improve organization resilience.

Building Supply Chain Resilience

Increased globalization and just-in-time delivery have introduced huge risks in an organizations ability to respond in a crisis. Understanding your supply chains ability to continue to provide inventory, or increasing supplies is critical. Agencies should work to establish min max levels that support both normal operations, as well as operations managed under a COOPs. “Plan B” inventory management plans should be established that consider alternative sources or alternative products.

A review of the supply chain should be undertaken regularly to ensure that the organization is able to increase supplies on an emergency basis if needed. This includes reviewing supplier lists and ensuring that products are available, and contracts are current and appropriate.

Stop the Spread

Critical infrastructure is necessary to support recovery and restoration activities. Stopping the spread is not just about social distancing, but also enabling teams to work harmoniously, with limited physical interaction. To prepare for a second wave of COVID-19, organizations need to develop programs NOW to establish and train robust management frameworks to control risks through a program of managed response, recovery and restoration. An asset management approach will strengthen the organizations resilience by considering both the typical managing asset activities of maintenance and capital delivery as well as the asset management activities of strategic planning, through to service delivery and financing.

About the Author

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¹ FEMA Emergency Management Institute (March 2020). "IS-520: Introduction to Continuity of Operations Planning for Pandemic Influenzas". <https://emilms.fema.gov/IS.0520/curriculum/1.html>

² The Aspen Institute (April 2020). "Fight Back: How to Stop Cyber Criminals During the Pandemic". www.aspeninstitute.org.

³ Federal Transit Administration (2015). SOGR Roundtable – quote from New York MTA related to response to Super Storm Sandy.