

Triage: Responding to a disruption

An excerpt from:



Architect's Guide to Business Continuity



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The 2021 update includes a refined Business Continuity Planning Process that includes a resource inventory, business impact analysis, recovery strategies and solutions, risk assessment, and risk treatment plan, updated worksheets, new interactive workbooks and case studies, and additional checklist items in the guide's section on preparing for and responding to a disruption.



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“The AIA supports policies, programs, and practices that promote adaptable and resilient buildings and communities. Buildings and communities are subjected to destructive forces from natural and human-caused hazards such as fire, earthquakes, flooding, sea level rise, tornadoes, tsunamis, severe weather, and even intentional attack. The forces affecting the built environment are evolving with climate change, environmental degradation, population growth, and migration; this alters long term conditions and demands design innovation. Architects design environments that reduce harm and property damage, adapt to evolving conditions, and more readily, effectively and efficiently recover from adverse events. Additionally, the AIA supports member training and active involvement in disaster assistance efforts, providing valuable insights and aid to communities before, during, and after a destructive event.”

–AIA Resilience and Adaptation Position Statement, approved December 2017

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Triage: Responding to a disruption

Sometimes a disruption occurs before embarking on a business continuity plan or the hazard event exceeds the anticipated impacts. When unexpected disruptions occur, the shock can be paralyzing. Extreme weather, cyberattacks, and the sudden loss of a team member are three common disruptions a firm might experience. If you've experienced an extreme weather event, cyberattack, or sudden loss of a team member, the checklists linked within the "In the event of:" graphic can help guide the firm through recovery. Informed by firms that have experienced

such disruptions, these checklists are intended to ease the burden of unforeseen impacts and get the firm back up and running as soon as possible. Alternatively, this section may be a helpful reference when developing employee responsibilities for times of disruption (see step 1 of the business continuity planning process).

When a disruption occurs, it's important to reflect on the experience and update your business continuity planning documentation accordingly. Reflecting on your experience and understanding what to do (or not do) when a disruption occurs can help the firm navigate the unexpected as well as better plan for future hazard events.



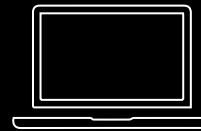
In the event of:

Business continuity planning means preparing for disruption. Here's what to do if an extreme weather event, cyberattack, or key personnel vacancy happens to you.

Click the title of each checklist to jump to recommended actions.



EXTREME WEATHER



CYBERATTACK



KEY TEAM MEMBER
VACANCY



In the event of: Extreme weather

Extreme weather can keep a firm from reopening its office doors, delay projects, and turn your personal life upside down. Below are a few recommendations to help you should extreme weather strike. Keep in mind, when an extreme weather event occurs, your firm, as well as your broader community, may be affected. If employees have lost their home or had family members hurt due to an environmental hazard event, they may not be available to assist the firm.



If a hazard event is forecasted

Hazard events such as heavy precipitation events, storms, and extreme heat events are more likely to be forecasted while hazard events such as earthquakes or tornadoes will have significantly less notice.

Sign up for local emergency alerts.

Monitor emergency operations center's notices and evacuation status.

Communicate with internal team. Team assignments may change to focus on preparing for a forecasted hazard event. Confirm with employees as to whom they will report to during evacuation. Additionally, employees will need to know if or when the office will close in order to plan for their own preparations and safe evacuation.

Ensure physical facilities are secured to the extent possible. Preparations will vary based on the hazard event forecasted. Ensure recent photographs of the office/equipment are available for potential insurance claims.

Create a go box for each project. Archive projects in the design phase in a common, accessible location and make all information available electronically and accessible for remote work. Employees can assist with preparing a go box for each project, including critical information for remote work and project continuity: drawings, project manuals, contracts, notebooks, etc. Assemble these materials in a banker's box or weatherproof box, and remove the box from the threat area should evacuation be required.

Ensure files and contacts are backed up and current login info to the remote server is available.

Ensure engineering/facilities employees are scheduled in a manner that provides maximum coverage. Consider staggering work schedules and having on-call employees available.

Photograph projects under construction: If there is time, it is good practice to photograph projects under construction with a date stamp, including completed sections and materials stored on the job site—if there is a loss, the architect may be part of the claim team for the builder's risk insurance.

Obtain flash drives, chargers, and other supplies for potential evacuation. Depending on the hazard event forecast and your office setup, this may include removal of critical in-house computer hardware, original software files, cameras, projector, license stamps, laptops, rolodexes, password log, checkbooks, tax files, bank records, insurance records, etc.

Conduct external outreach. Prior to a forecast hazard event, when feasible send email communications to clients, consultants, contractors, and other contacts describing the office status. Project managers can share any updated contact information as the primary person in charge of a project and identify an alternate contact if they are unavailable.

Set out-of-office messages. Electronic messages with alternative contact information can be posted to regular communication channels including phone, email, and shared information sites and indicate a potential delay for replies. Prepare social media posts for interruption and recovery procedures.

Support past clients. When a hazard event approaches or a reminder of hazard risk occurs, past clients may scramble for information; as time permits, you may remind them about owners and maintenance information previously provided for operation systems, warranties, and other potentially useful features. Remind your current clients of emergency notices from authorities. Never promise that a building will withstand a threat; maintenance and construction defects may result in performance that is less than the designed condition.



Initial disaster response

Emphasize life safety. Prioritize human life and safety over property in all actions during a hazard event (i.e., leave the building rather than stay to fight a fire or collect valuables; break a window or door to get out if necessary).

Identify available communication resources. Check channels of communication such as office phones, fax lines that don't go through a phone system, office internet, cell phone service, etc.

Ensure everyone at the site is safe. Take roll of all employees in the office and triage for physical or emotional injuries. If safe to do so, encourage employees to stay at home or return home. If shelter is needed and the office is stable, welcome employees to shelter in place.

Determine if employees not present at the office are safe after the hazard event. Contact employees and follow up if there is no response.

Communicate the type of hazard event underway and action(s) to be taken. For example, lockdown procedures, exits that are no longer viable, etc.

Activate shelter in place procedures as necessary and reasonable. If a prolonged stay is necessary (i.e., overnight because no transit is accessible), rearrange common areas if necessary and assign employees who are there to coordinate food and sleeping areas.

If the power is out, unplug appliances. Desktop computers, monitors, TVs, plotters, printers and other equipment should be unplugged to protect them against power-surge damage when power returns.

Allow individuals to work remotely if circumstances permit.



Business is operational

Re-evaluate project schedules. For projects in design, identify the schedule impacts from the closure and advise the client. One or more projects may have to be put on hold if employees are unable to work, the contractor cannot access the site, or a number of other challenges are encountered. Contact the authority having jurisdiction to determine emergency procedures or ordinances available for obtaining permits and resuming work. Coordinate with the clients, contractors, and other parties to determine an acceptable solution; it may require teaming up with an unaffected colleague or alternate contractor. If the client terminates a project due to the changed conditions, work with them to identify an alternative lot, size, scope, schedule, or delivery method, if possible. If there is no opportunity for a modified contract, AIA contracts provide for termination expenses to be paid to the architect. Government and other client's contracts often include force majeure clauses allowing for contract termination in case of extended force majeure events.

Conduct outreach to clients, community groups or government agencies, and design partners to determine new project opportunities (repairs, retrofits). Make your skills available to former clients for technical assistance. Become an active part of any relevant recovery efforts. Help the community analyze reconstruction principles and priorities by joining committees, providing assistance in visioning, writing grants, and fundraising.

Be a resource. If a client or essential consultant is displaced, consider the availability of space in your office to provide temporary workspace for them. Consider allowing colleagues or community groups to use your office conference space for community meetings; this is an opportunity to become a hub for information and idea-sharing. If sharing office space is disrupting operations or too costly, get creative. How could a garage, warehouse, file room, conference room, café, or other less-used space be utilized for community support? Also contact your local AIA component. They can help you provide resources to your peers.



Learning from disruption

- **Extreme weather event:** Few people had the resources to rebuild immediately after the hurricane, so we organized community meetings about rebuilding, participated in the charrettes, and volunteered where we could to help with disaster assessments and planning for future improvements.

-Firm owner

Conduct outreach to clients, community groups or government agencies, and design partners to determine new project opportunities (repairs, retrofits): Make your skills available to former clients for technical assistance. Become an active part of the recovery efforts. Help the community analyze reconstruction principles and priorities by joining committees, providing assistance in visioning, writing grants, and fundraising.

Assess and update plan: Reflect on the experience. What went wrong? What went right? How can you use these findings to enhance your business continuity plan?



Business is disrupted

Check on impact to employees and provide office status update. Within a certain time frame, the primary contact should reach out to the team. If the designated time frame is reached without communication from the primary contact, the secondary contact needs to reach out to employees. Employees will provide a status update, location, and availability. If they have been affected by the hazard event, they should contact a designated person to find out how to receive assistance during the recovery period. Communicate if the office is safe for reoccupation (or an estimated time when that might be known and communicate to them) and any alternate provisions. If the scope of the hazard event warrants a change in the office reopening date, communicate this to your team as soon as possible so they can plan ahead. Communicate any pay impacts that may occur.

Update office website with status information. If the scope of the hazard event warrants a change in the office reopening date, update the office website with new information.

Determine ability to access the site following a disaster. Confirm with the authority having jurisdiction (AHJ) that it is safe to enter the facility. If you have AIA SAP-trained employees, this determination can be made by those trained staff members. The evaluation conducted only informs your own actions and is not a means of tagging the building, which is the responsibility of the AHJ.

When it is safe to do so, designate firm leaders or employees to enter the disaster area and review the status of the building and/or projects under construction. If the damage is significant or access to the building is otherwise restricted, coordination with landlord, building management, and/or local authorities will be needed.

Retrieve key documents. Collect copies of all key documents and meet with building/fire officials, landlord, building management to advise status of building; schedule next steps/actions needed.

Contact insurance agent(s) about coverage and claims.

Determine who can return to work. Coordinate with employees to determine who is able to return to work in person and who needs to work remotely. Adjust project assignments as necessary.

Confirm which staff have access to safe remote work options: If employees cannot return immediately to work or need personal time off, try to be as flexible as possible.

Restore office space. Contact the insurance claim adjuster to schedule the insurance assessment. Alternatively, photograph (with date and time stamp) the office “as is” and share documentation to advise status. If damage is sustained beyond the ability of employees to clean up/repair, schedule cleanup/repair. If it is not possible to use the office again ever, arrange for lease of a new location. If seeking a temporary or permanent new location, consider the availability of housing in the area, access challenges, and the mental health impacts of returning to an impacted area.

Contact your local AIA component. After a hazard event, state and local components may be reached via email, phone, or social media depending on the impacts. Reach out when you are able; they can be a resource to you.



After event

Examine/evaluate projects under construction. If projects under construction experience damage, use the hazard event to learn more and share across the firm.

Examine/document damaged projects and determine the cause of failures. Architects need to continually educate themselves about the causes of building failures in order to prevent them from happening in the future.

Assess and update plan. Reflect on the experience. What went wrong? What went right? How can you use these findings to enhance your business continuity plan? Document findings and capture requirements for business continuity planning documentation (or apply updates if documentation already exists).



From disaster to resilience dividends

How a small Iowa firm managed disruption

Courtesy of Kyle Martin, AIA | Martin Gardner Architecture

THE EVENT: Iowa derecho

It was just a regular Monday in August 2020. The local news broadcast warnings about a strong storm coming through, and sure enough, tornado sirens went off right at noon. From our office building's second-story windows, we watched the storm roll in like we always do, but we quickly realized the storm was unusually fierce. Of our seven employees in our Marion, Iowa, office, only three were in the office that day. If we'd known the true strength of the storm, we would've sought shelter in the basement. But escaping to the basement requires us to go outside to a separate entrance—a path that quickly became unsafe as the storm roared on. Instead, we watched as pieces of neighboring buildings flew by, listening for creaks, and wondering if our roof would hold. The power went out and nearly all of the 150-year-old trees in the park next door fell victim to the 100+ mph winds. A small handful of buildings in the area caught fire due to broken gas lines. After the storm, we filed out of the building along with our neighbors, taking inventory of what was broken and in awe of the strength of what we would soon learn was a derecho.

POST-DISRUPTION:

Our first task was to check on our employees. Due to the COVID-19 pandemic—as well as the weather forecast—our staff was dispersed between the office and their own homes. We didn't know what communication networks were operational, so we tried them all: text message, cell phone, landline, email. In one way or another, we eventually heard from everyone. Many were dealing with storm damage at their own homes, but everyone was safe. It quickly became clear that power and communications were down across the entire region; cell service was spotty at best, and there was no internet. Travel through the metro area was also heavily impacted as trees and debris blocked streets block after block in every part of the county. The day after the storm we put out a message on social media that our Marion office—located just outside Cedar Rapids—was impacted, but our Strawberry Point office—located an hour north of Marion—was still fully operational and that we would reach out to our clients and friends as soon as we were able to begin recovery efforts.

Because of how the power grid is networked through Marion, the local authorities prioritized returning power to the central business district, where our Marion office is located. Therefore, our office was one of the first buildings to regain power—a

mere three days after the storm. If it had been any longer, employees who had managed to stabilize their own properties first would have begun working out of our Strawberry Point office. For many, the internet came back on with the power, and some semblance of normal communications was available.

After our Marion office regained power, we invited our employees and their families to utilize the office as a resource. It was August and unbearably hot. Our employees appreciated the opportunity to charge their phones and cool off while maintaining COVID-19 social distancing precautions.

As they were able, the assigned project managers began reaching out to our clients. In the main disaster area, it took about 30 days before normal construction activities resumed. Some of our projects shut down because clients and contractors had to deal with their own post-disaster problems.

Our early power restoration also allowed us to be a resource to our community. Trying not to sit idly by, we transformed our services to help our clients and the general community navigate the post-disaster reconstruction process: developing an "intake" process to efficiently process phone calls that came in, giving preliminary advice for people who just needed a little guidance, speaking with insurance representatives, taking part in building evaluations with insurance adjusters, providing contact information for other specialized consultants like structural engineers, and referring people to the appropriate contractors. We developed a standardized form to document damage with space for photos and calculating our fees.

In some ways, this community support became a type of guerilla marketing, leading to new work for our firm. We prioritized the people and entities already in our network. We took to social media, alerting our clients, government officials, and community members that we were available to help. We canvassed community social media pages to see who posted about damage in their area so we could potentially respond to their needs. We developed a script of questions and recommendations.

We had just completed a project with local county government, which made it natural for us to reach out to them again. We then contracted with Linn County to assess 80-some buildings and develop project scopes for derecho repairs. In some cases, we referred the repairs to the original architect or engineer. Now, we're developing project bid packages to repair the remainder of the county's building stock.



LESSONS LEARNED

- **Know your dependencies:** Understand the vulnerability of your firm's office by finding out the priority level for utility service to your office's neighborhood. Think through backups for each of the services you use.
- **Be flexible:** The COVID-19 pandemic had positioned us to be able to work from home; however, residential neighborhoods didn't regain power nearly as quickly as our office. Having two small regional offices—plus the ability to work from home—gave us multiple options to continue our work.
- **Reach out proactively:** In every disaster there are ways for architects to be a resource. Don't assume clients and community members know to contact you for help. Be proactive. Let people know what your resources, skills, and abilities are. Identify the social networks that the community finds useful and be on them. Being part of an active chamber of commerce can be powerful in times of need.
- **Trust but verify:** After a disaster, the community is inevitably flooded with "storm chasers." Most of the contractors and tradesmen that arrive post-disaster genuinely want to help, and many, but not all, are qualified to perform the work. However, fraud is common post-disaster, so review contracts carefully.

REFLECTING ON RISK

Table 36: *Marion Hazard Prioritization in the 2019-2024 Linn County Multi-jurisdictional Hazard Mitigation Plan* categorizes tornadoes and windstorms, as well as thunderstorms, lightning, and hail as "priority 1" hazards. While not explicitly named in the plan, a derecho¹⁸ is a large, fast-moving complex of thunderstorms with powerful straight-line winds.

¹⁸ "Derecho," *Merriam-Webster.com Dictionary*, Merriam-Webster, <https://www.merriam-webster.com/dictionary/derecho>. Accessed 2021.



In the event of: Cyberattack

Cybersecurity and digital information loss are growing concerns across all industries. Should your firm be held hostage by ransomware or experience the loss of sensitive data, below are recommended next steps.



During event:

Identify disruption type. Contact IT upon initial suspicion of a cyberattack or abnormality to minimize continued risk. Take notice of the scope of the disruption. Is it impacting only a single computer, just your office, or firm-wide? Quickly analyzing the problem can assist in reducing spread and damage. If in place, follow the technology recovery plan to identify and address the disruption as planned (where possible) and adapt as the situation warrants.

Identify cybersecurity breach type. Understand the cyberattack. Is it easily resolved, or does it involve significant damage? Analyzing the loss and its impact will help determine if the information lost or pirated is worth recovering. Backup systems, when correctly designed, deployed, and appropriately isolated, can nullify piracy events as damaged data can simply be recovered. In certain situations, if internal IT expertise is not available, contacting a security incident management company as soon as possible may be the best approach to understanding the scale and scope of the disruption.

Contact cyber liability insurance carrier. Many policies offer assistance to help mitigate the risk during the attack.

Contact legal counsel. The firm will need to understand the contractual and legal implications of the cyberattack to help identify and prioritize next steps.

Mitigate or nullify attack when possible. If the source of malicious/unwanted activity can be located through IT forensics, disable accounts, change passwords, shut down internet connectivity, isolate office network, or take other appropriate actions.

Analyze data loss and recovery methods. Firms are technology-based. Analyzing loss needs to quickly happen once an cyberattack occurs to understand what is impacted by a cyberattack, and to minimize additional cyberattacks. An IT specialist can analyze and discuss recovery.

Prioritize restoration. Identify each application criticality as a basis for prioritizing the recovery process. For example, CAD or BIM systems and associated files may be more critical than office productivity software. The ease with which an application can be restored as well as the business cycle will impact criticality. For example, a down payroll system the day before payday will have a higher criticality than the day after payday.

Engage internal team leaders on extent of loss if documents are unrecoverable. Cyberattacks impact the entire firm and can quickly spiral out of control. Make everyone aware of the attack, what is impacted, how it is resolved, and how they should proceed in notifying outside sources.

Notify clients, consultants, and other deadline-related sources of the breach. Cyberattacks can occur without an employee even knowing they have allowed access. They can be passed on from reliable sources, such as consultants, accountants, professionals, or what appear to be secure websites (banks, government). It is important to notify a project team so they understand the reason for possible delays and so they understand how it is being resolved.

After event

Review documentation and interview stakeholders. Review documentation recorded during the cyber event and interview stakeholders to understand their perspectives and insights. If a technology recovery plan was used, discern where the technology recovery plan was insufficient, and make corrections and additions based on lessons learned. Update the incident response plan as needed.

Implement more robust backup, disaster recovery, and monitoring systems. Depending on the disruption source, impact, and perceived future risk, implement improved backup systems to reduce impact and time-to-recovery during a future data loss or cybersecurity attack.

Educate employees on cyber risks/vulnerabilities. Understand why the attack occurred and educate employees on how to minimize future risk. Was it from a source deemed reliable? Asking the source through a separate process before responding or opening links often will greatly diminish attacks.

Implement changes based on broader lessons learned. Execute changes to routine testing, drills, procedural reviews, and user training to mitigate future risks. Ensure lessons learned are embodied to prevent future reoccurrence.

Assess. Reflect on the experience. What went wrong? What went right? How can you use these findings to enhance your business continuity plan? Document findings and capture requirements for business continuity planning documentation (or apply updates if documentation already exists).



In the event of: Key team member vacancy

Whether unexpected death, sudden departure, or temporary inability to work, a key team member vacancy can be detrimental to the daily needs of a firm. Below are a few tips should this happen to you.

After event:

Assess team impact. Determine the essential activities of the key team member and find the right team member to fill the gaps. Recognize that tasks may need to be re-prioritized. Even in a large firm, it may not be reasonable for remaining team members to take on substantial new responsibilities on top of existing assignments.

Communicate employee changes to the entire staff with transparency. Anticipate when temporary circumstances will resolve or change, and communicate both unknowns and expectations.

Notify clients. Communicate relevant aspects of the succession plan to clients with care, individually, and with clear assignment of new team members. Recognize that some clients will be disappointed—take steps to address their concerns.

Revise website and marketing materials as needed. Remove the individual from firm literature, website, social media, etc., to avoid clients/vendors asking for a team member who is no longer available.

Provide training and mentorship for team members with new responsibilities: Reassess other work expectations and reprioritize. Employees experiencing new duties may feel quickly overwhelmed. Try to provide time and flexibility to accommodate onboarding to new duties and projects.

Communicate the ongoing strength of the firm through the media, community partners, pro bono service, etc

If a death is experienced, celebrate the life of the team member (as appropriate) and allow the office time to grieve. This will be unique to the situation. Examples of celebrating the life of the team member include establishing a scholarship to recognize the loss and contributions of the team member, hosting a memorial with a firm-wide and external message (particularly when the individual has an industry-level presence), providing an internally focused message, and offering a very local office message with clear support for the remaining family. Where appropriate, the office may also consider offering support to the team member's family.

Assess. Reflect on the experience. What went wrong? What went right? How can you use these findings to enhance your business continuity plan? How might the firm perform more detailed succession planning and/or cross-training to minimize the impact of unexpected vacancies in the future?