

# LAEDC's Guide to Planning for Business Operations After Earthquakes



## Strategies to Reduce the Impact

If you're operating a business in California, you need to take steps to improve the chances that your business operations and systems will still run after an earthquake or other natural disaster by planning for Business Continuity, Business Resiliency and Disaster Recovery.

Consider the effects an earthquake may have on your business, including infrastructure damage that might prevent employees from getting to work for days or weeks. Included in this guide are suggested steps to take to help protect your people and keep your business systems running in that scenario. This will improve your chances of maintaining revenue as well as operations during the region's recovery.

This guide's recommendations are for your consideration, and every business is different. Some recommendations may be suitable for you and others not. Use this guide as a conversation starter to evaluate the best strategy for your business.

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We've all heard **Drop, Cover and Hold On** as a personal safety response to an earthquake. Businesses can consider those words in a new context to prepare for an earthquake:

### DROP

**Total reliance on vulnerable on-premise computer servers and replicate critical business systems in the cloud**

### COVER

**Your immediate cashflow needs in the recovery phase, to maintain payroll and critical accounts payable**

### HOLD ON

**To your workforce's productivity via remote access, if employees are unable to get to the office for an extended period**



**WE ALL KNOW** that large earthquakes are an inevitable part of the future of Los Angeles. When that happens, we will see disruption to transportation, the power grid, communications and other utilities. Now is the time to imagine your workers are home and there's no power at the office. Much of the damage could be prevented and planning now can improve the safety of your employees and help your business systems remain functional after the event. Many of the models of big disasters predict that the cost of business disruption after the event can exceed the losses during the event. This guide can help your business not be one of the permanent losers.

— Dr. Lucy Jones  
*The Dr. Lucy Jones Center for Science and Society*



**I WAS INSPIRED TO BE INVOLVED** in public service after the Northridge quake. I was working at a television studio at the time. On the morning of the quake, our building was a shambles and we scrambled to gather scripts and production schedules for the next week's shows, but our office building was red-tagged, pending further inspection and we weren't even supposed to enter. That story really dates the quake—1994—before the massive shift to digital. Our growing dependence on IT systems and data infrastructure has changed the priorities for business continuity. If businesses take steps now, they are much more likely to remain viable, preserve revenue streams, and make payroll in the weeks after a quake. In addition to this guide, we hope you will learn about the statewide initiative, Outsmart Disaster, which offers additional resources through its partnership with LAEDC.

— Bill Allen  
*CEO of LAEDC*



**WORKING WITH SMALL BUSINESS OWNERS** is one of the most important things we do at Wells Fargo and it is critical that they are properly prepared for natural disasters such as earthquakes. We are proud to support LAEDC in bringing these tips to business owners to allow them to continue running, growing and thriving.

— Luanna Lindsey  
*Senior Vice President, Small Business Leader, Wells Fargo*

Find this guide online: [laedc.org/EQ](https://laedc.org/EQ)  
Esta guía está disponible en español: [laedc.org/EQS](https://laedc.org/EQS)

## STEP 1

# General Preparation



- A. **Review the business process flow chart** for your organization. Then identify a short list of business operations and related systems that are critical for the company to survive and recover as quickly as possible. Identify the top few critical functions in each department that must continue (based on criteria such as financial, customer or reputational impact) and identify the key employees and alternate employees. Resources are available.<sup>1</sup>
- B. **List and review your suppliers**, and consider how supply chain and operational dependencies will be affected by an earthquake. Ask those providers if they have a business continuity plan, and coordinate your plan with theirs if necessary. After an earthquake, plan to communicate with them about how the disruption will affect orders and payments. Obtain after-hours phone numbers for these contacts. Before a disaster, invite those companies into your planning exercises.
- C. **Define crisis management procedures and individual responsibilities** in advance. Management should make sure key staff (and a backup person) with expertise and authority are represented on the crisis management teams to be able to make effective decisions to manage the event impacts. Define a spokesperson to the media and staff. Review plans through an exercise at least annually, to confirm the plans are reasonable and can be executed.



- D. **Establish a disaster communications plan for your employees** that might include mass email and text notifications to communicate instructions. Several vendors offer specialized mass notification systems to send messages to email, text and voice contact points for pre-defined groups of all sizes.<sup>2</sup> The messages can indicate how the disruption has affected the business, who is expected to report to work, where to direct questions, and whether payroll will be affected. Some vendor solutions also allow for two-way communications to account for your personnel electronically. Think about alternate ways to make contact with employees if phone and internet are out. Try text messages if voice calls are unavailable.
- E. **Update your phone list of employee home contact numbers** and emergency contact information regularly and store that information securely, both in a binder and on the internet (i.e. in the cloud). You can make a pdf of the contact list and email to key staff and ask them to keep a copy on their phones. Key supervisors can keep printed lists handy, including at home, in case the cloud is not immediately accessible. Add an easy process for employees to confirm they are safe.
- F. **Test your plans** for safety, business continuation and disaster recovery. Have all stakeholders—management, employees, contractors, building management and service providers—participate in annual exercises. Raise awareness with your personnel to ensure they know the actions to take during and after an earthquake.<sup>3</sup>
- G. **Consult additional guides** about personal and family safety and preparedness, such as storing supplies like water, food, batteries, flashlights, etc. If your employees are prepared, they are more likely to report for work. See back page link to The Seven Steps.

### WHAT IS YOUR PLAN?

How would your business address each of these scenarios?

Loss of facility: \_\_\_\_\_

High employee absenteeism  
(Greater than 40%): \_\_\_\_\_

Loss of technology: \_\_\_\_\_

Loss of power and other utilities: \_\_\_\_\_

Loss of critical vendor(s): \_\_\_\_\_

Loss of critical data: \_\_\_\_\_

# Information Technology

## Implement Backup & Disaster Recovery/ Business Continuity Solutions

Your computing hardware might be damaged in an earthquake, or off due to extended power outage, or employees might not be at the office to access systems. For these reasons, it is recommended that you utilize the cloud. Employees may be able to remotely access your systems in the cloud and conduct business using mobile computing devices, if you configure this type of remote access.

However, after an earthquake it may be difficult to get a data signal and access the cloud on mobile phones or other mobile devices, so relying entirely on the cloud creates some uncertainty too. Therefore, it may take some thinking to choose the best path for your business. A mixed model may be best, as described in the next paragraph.

If you have on-premise servers running critical business systems, automate daily backup of data, applications and bootable server images to the cloud, with the option of spooling up your apps in a cloud environment. Several companies<sup>4</sup> provide devices that allow you to switch to the cloud in a disaster. This strategy gives you two options: You can run all your critical applications in the cloud so employees can try to access the systems from home. Or if your on-premise servers are still working you might elect to keep them running, an option that could be best if you have power but no internet connectivity.

- A. **Engage experts**, which might be in the form of a managed service provider (MSP) that can install Backup & Disaster Recovery (BDR) solutions.<sup>5</sup> Many of these providers also offer disaster recovery planning and testing services.
- B. **Move your email system to the cloud.** Select a platform<sup>6</sup> and install the corresponding app on employee smartphones.
- C. **Eliminate or reduce reliance on physical computer servers and data storage devices at your premises**, for critical transactional systems that capture revenue, manage accounting and banking, and other vital business systems. Look at devices requiring utility electricity and consider alternative power sources such as generators or solar power options.
- D. **Specify out-of-region cloud hosting and backup**, when engaging vendors or MSPs for cloud-based business continuity, to mitigate the risk that data warehouses in your region will be down.
- E. **Install additional smartphone apps** if possible, such as banking and accounting apps, so responsible employees can access and manage these systems from their smartphone or tablet/notebook computer. Write down your passwords at home in a secure place. Again, a cautionary note that cell phone service may be spotty or unavailable in the days immediately after a quake. Be sure this additional mobile access does not compromise your internal fraud controls.
- F. **Ensure key customer information is replicated or hosted in the cloud** (e.g. CRM records). Consider your recovery plan for current project folders that are deliverable in the near future. One option is to transition standard processes for team collaboration on projects to a file sharing network or cloud-based systems<sup>7</sup> if you verify that cloud-hosted file sharing meets your security needs.
- G. **Improve the chances your employees can get on the internet** to manage your systems
  - a. Cross-train employees on critical systems and disaster recovery plans, systems and procedures.
  - b. Consider whether key employees have two cell service providers, in case one network is down. For example, key employees can carry a company phone on a different network than their personal phone. Consider satellite phones for key staff, which are less affected by earthquakes, (Some satellite providers<sup>8</sup> are getting better at data and internet).
  - c. Notebook computers may be able to access the internet via the employee's cellphone "wifi hot-spot" when activated in phone settings. If that is your plan make sure employees take computers home every night.
  - d. Issue key employees a small solar charger paired with a large USB battery. It can be company-owned but employees will keep it at home. This will improve the odds that employees can charge smartphones to conduct business if there is an extended regional power outage. For example, a 20 watt solar charger and a 20,000 mAh USB-style battery.



- H. **Utilize your location(s) outside of the region** to backup or replicate data if your business has offices elsewhere.
- I. **Scan important paper documents** and back them up securely in the cloud.
- J. **Mitigate risk of hacking** as you implement any IT strategies. Consider document encryption and/or second-layer authentication to protect financial systems, intellectual property, and confidential data. A cybersecurity consultant may be useful.
- K. **Eliminate single points-of-failure on the computer network** that might impact your ability to connect (e.g. access points, firewalls and VPNs). These single points of failure might be outside your facility. As part of this, consider 4G LTE failover capability for internet connected devices, if your wired internet connection is down.
- L. **Uninterruptible Power Supply (UPS) with a shutdown interface** should be used with your key computers. This will increase the chance that your servers will shut down orderly without data loss. After an earthquake power may be on and off in rotating outages, and a UPS (aka battery backup) with shutdown software will mitigate this issue.



### STEP 3

## Customer Facing



### Ensure customer-facing presence is operating

- A. **Phones:**

Make arrangements to redirect incoming voice calls to another location, or third party out-of-region answering service provider, or designated out-of-region employee. If you have the option to keep at least one plain-old landline telephone (no ac power required), that may work better than other phone systems after an earthquake.
- B. **Website:**

Review your website hosting and make sure it will be operating if electricity is out in our local region. Establish a process for posting updates after a quake, regarding your business hours or customer order delays, to reset customer expectations. Your website can also help notify your employees about expectations for business hours and operations. Social media accounts can also be useful to update customers and employees.
- C. **Orders:**

If your business handles customer orders, evaluate how impactful loss of services will be to customers and develop a response plan accordingly. At minimum, plan to send emails to customers with updates about delays.

## STEP 4

# Financial



## Setup additional financial resiliency

Ask your insurance company if your policy covers earthquakes and more specifically business interruption insurance after an earthquake, which is often excluded from policies. For example, you may need temporary relocation covered by the policy or coverage for other specific risks.

- A. **Pre-establish access-to-capital** (or lines of credit) for payroll and other expenses for post-earthquake, in case revenue is temporarily difficult to process. Some payment processing systems offer loans, for prequalified businesses.
- B. **Document key assets** and equipment and save pictures with metadata to the cloud.
- C. **Digitize transaction processes** to accept and disperse funds.
  - a. Some companies adjust settings on payroll systems so that in event of a major earthquake the system will automatically process the same payroll amounts as employees received in their recent paycheck. Direct deposit has advantages for employees and can be encouraged.
  - b. Work with receivables accounts to ask them to change from paper checks to electronic payments such as ACH, so your revenue isn't reliant on your physical mailbox and postal mail delivery vans.

- D. **Emergency Loans** are available from these sources.

**California IBank** disaster relief guaranteed loan program works with Financial Development Corporations (FDCs) and lenders to provide loans for economic injury (e.g. lost revenue) or facility damage. [www.ibank.ca.gov/small-business-finance-center/](http://www.ibank.ca.gov/small-business-finance-center/) or 916-341-6600.

**The U.S. Small Business Administration (SBA)** provides low-interest disaster loans to homeowners, renters, businesses of all sizes and most private non-profit organizations. Once a disaster is declared, SBA disaster loans can be used to repair or replace real estate, personal property, machinery and equipment, inventory and business assets. SBA offers three different types of disaster loans: Business Physical Disaster Loans to repair or replace property including real estate, inventories, machinery and equipment; Economic Injury Disaster Loans for working capital to help meet ordinary and necessary financial obligations; and Home Disaster Loans. [www.sba.gov/disaster-assistance](http://www.sba.gov/disaster-assistance) or 800-659-2955.

- E. **Prepare for short term cash needs** because automated teller machines and bank branches will likely be closed while power is out.

## STEP 5

# Physical Facility



For those companies tied to a physical building, consider the following additional preparations and revenue loss prevention.

- A. **Have your building inspected** to see if it needs a retrofit. This is an employee safety issue and affects ability to use the building after an earthquake. Many buildings are designed to remain stable for people to exit, but what's needed is a higher standard—a building that remains usable after strong, sustained shaking at your location. If you lease, ask your landlord for a seismic structural analysis report.
- B. **Budget for retrofit measures** in the coming year's budgeting process, based on the assessment, to at least take initial measures for improvement.
- C. **Consider a plan for emergency power**, such as signing a contract for delivery<sup>8</sup> of a power generator, or install a generator, or install solar power tied to backup batteries. Establish a regular testing plan.
- D. **Retailers and distributors can negotiate contingency drop-ship agreements with vendors.** This may allow goods delivery to customers even if your primary facility is offline.
- E. **Portable IT systems** (e.g. notebook versus desktop computer) have some advantages after an earthquake.
- F. **Post-earthquake inspection** by independent, licensed professional engineers can save valuable days. They can expedite inspection and allow you to enter the facility for use, because city inspectors will be heavily backlogged. Ask your city now if it allows a Business Occupancy Resumption Program (BORP) that recognizes independent engineers for this purpose.
- G. **Utility services;** including electricity, water, sewer, network and gas may be disrupted for weeks or months after a large earthquake. Know where the utility shutoffs are. Consider how your business can operate without utilities for an extended period. For example, automatic doors may need keys and manual operation.
- H. **Delivery of mobile offices** can be pre-planned via a contract you can negotiate now.<sup>9</sup>
- I. **Protect employees and others in your facility** by securing heavy things that might fall, and storing emergency water and rations.

## STEP 6

# Rate Your Progress



**Take the Business Resilience Challenge**, provided by OutsmartDisaster.com, a resource provided by State of California. It reinforces many of the concepts discussed in this guide. Also utilize the Red Cross Ready Rating Program, especially helpful for small businesses. <https://www.readyrating.org/The-Red-Cross-Ready-Rating-Program>

## Footnotes

- 1 Tools to review your business process flowchart include Ready.gov (see links section on back cover)
- 2 Mass notification system vendors include: Everbridge, Alertfind, Missionmode, OnSolve
- 3 Training for employees on disaster roles and responsibilities is offered by Ripcord Solutions and others.
- 4 Cloud-based backup and hosting solutions include: Datto (cloud backup and continuity), Microsoft (Azure backup/continuity product), Amazon (AWS cloud hosting), IBM (various IT business continuity products & services), Infracore (cloud backup), Sungard (IT backup and related)
- 5 There are many IT companies and Managed Service Providers (MSPs) who can implement BCDR plans. Ask the company about their resilience in an earthquake to ensure they will be able to serve your needs in the event their business is affected too.
- 6 iPhone and Android apps can be installed on phones, such as Microsoft Outlook for iOS. Some email systems like gmail are already cloud-based.
- 7 Google Docs, Microsoft OneDrive, and other solutions allow collaborative access to documents in the cloud.
- 8 Satellite phone providers such as Viasat offer high-speed internet capability.
- 9 Delivery of mobile offices and other equipment including power generators can be arranged with vendors such as Agility Recovery, Rentsys, IBM, SunGard and others.

The LAEDC and all companies and individuals acknowledged in this guide offer these recommendations as input for your business continuity planning, but the suitability and reliability of implementing solutions must be assessed on your own. There are no promises that these strategies or vendors listed will perform to your standards, and the reader assumes responsibility for vetting recommendations and solutions.

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## Links and Resources:

### The Seven Steps to Earthquake Safety

<https://www.earthquakecountry.org/sevensteps/>

### Ready.gov business continuity and disaster planning checklists

<https://www.ready.gov/business/implementation>

### FEMA Emergency Preparedness for Business

<https://www.fema.gov/media-library/resources-documents/collections/357>

### Los Angeles Fire Department's guides for disaster preparedness

<http://www.cert-la.com/disaster-emergency-preparedness/disaster-preparedness/>

### The Insurance Institute for Business & Home Safety (IBHS) has BC guidance, forms and tools in English and Spanish

<https://disastersafety.org/ibhs-business-protection/ofb-ez-business-continuity/>

### U.S. Small Business Administration (SBA) has resources for planning and post-disaster recovery.

*Recovery/general:* [www.sba.gov/disaster-assistance](http://www.sba.gov/disaster-assistance)

*Planning resources:* [www.sba.gov/business-guide/manage-your-business/prepare-emergencies](http://www.sba.gov/business-guide/manage-your-business/prepare-emergencies)

### SCORE has mentors, classes and other resources to assist small business prepare & recover from disaster.

<https://www.score.org/content/small-business-disaster-preparedness-resources>

### The Insurance Institute for Business & Home Safety (IBHS) has resiliency guidance, forms and tools in English and Spanish.

<https://disastersafety.org/ibhs-business-protection/ofb-ez-business-continuity/>



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