

## CITY OF LOS ANGELES

## INTER-DEPARTMENTAL CORRESPONDENCE



Date: November 21, 2013

To: Honorable Members of the Public Safety Committee

From: Anna Burton, Interim General Manager  
Emergency Management Department *Anna Burton*

Subject: **EARTHQUAKE PREPAREDNESS IN THE CITY OF LOS ANGELES  
(CF 13-1433)**

As requested by the City Council on October 23, 2013, per Council File #13-1433, the Emergency Management Department (EMD), with input from the Los Angeles Department of Building and Safety (LADBS) submits the following status report related to earthquake preparedness in the City of Los Angeles.

**Background:**

Recent media reports have highlighted the needs for the City to obtain comprehensive assessments of the risks posed by the consequences of the next big earthquake. On October 17, 2013, the Los Angeles Times published an article titled, *Mayor Garcetti Suggests Czar for Earthquake Preparedness*. The article states that Los Angeles Mayor Eric Garcetti considers having a "chief resilience officer" to oversee preparations for a major earthquake and ensure Los Angeles can minimize damages that may occur from such a natural disaster. As a follow-up to this newspaper article, the City Council introduced a motion directing EMD, with the assistance of the Los Angeles Department of Building and Safety, to report on the status of the City's earthquake preparedness efforts, along with additional recommendations to improve the City's efforts.

**Findings:**

***Emergency Management Department (EMD)***

EMD serves as the focal point for coordination of the City's emergency planning, response and recovery efforts for emergencies/disasters and planned events. Additionally, EMD serves as a liaison with other municipalities, state and federal agencies, and the private sector; and performs related public education and community preparedness activities. Earthquake preparedness is one of the primary natural disasters of emphasis in all of the department's planning, training and operational efforts. EMD continues to focus on the following key areas of responsibility as outlined in Chapter 29, Article 3 of the Los Angeles Administrative Code (LAAC):

- (a) Prepare Citywide emergency preparedness plans with the assistance of all other City departments, officers and agencies and assist other departments and agencies desiring to initiate or develop emergency preparedness activities;

- (b) Coordinate with public and private officials and agencies outside of City government to address emergency preparedness needs;
- (c) Prepare, coordinate and administer training for City employees and the public on emergency preparedness;
- (d) Conduct public education to assist in emergency preparedness; and
- (e) Perform other duties as provided by ordinance.

This report provides a three-tiered response to the City's level of preparedness for a major earthquake. This includes emergency management initiatives, City employee readiness, and community-wide readiness.

### ***Citywide Emergency Management Initiatives***

In accordance with Executive Directive No. 15 (dated March 17, 2011), EMD is the lead City agency responsible for directing and supervising the City's Emergency management program to include: planning, preparedness, response and recovery activities to mitigate the impact of natural, manmade and accidental incidents of high consequence. EMD is responsible for providing coordination, compliance, assistance, oversight and implementation of all emergency management activities, including but not limited to emergency plans, exercises, training, and community outreach.

Per this Directive, each City department is required to develop and maintain a Department Emergency Plan. EMD provides a Department Emergency Plan Template designed to ensure compliance with city processes and federal guidance. Every Department Head is responsible to ensure their emergency plan is reviewed, updated annually, and submitted to EMD. In turn, EMD submits an Annual Report to the Mayor on the citywide status of departmental plans. This Annual Report also includes training and exercise activities.

### ***Emergency Operations Plan***

EMD maintains the Emergency Operations Plan (EOP) along with EOP hazard-specific Annexes, one of which is the Earthquake Annex. The EOP is established in accordance with Division 8, Chapter 3 of the LAAC, and describes the authority, responsibilities, functions, and operations of civil government during local emergencies, states of emergency and war emergencies. The Annexes contain City department-specific roles and responsibilities as they pertain to a significant incident or disaster. Each department represented in the Annex has identified key "Pre-Event," "Response" and "Recovery" tasks that are outlined in detail in the Concept of Operations section of the Annex as well as in summary format within the Department Responsibilities matrices section. The EOP was recently rewritten to voluntarily conform to the Federal Emergency Management Agency (FEMA) Comprehensive Planning Guidance 101 standards. The plan is currently undergoing routine revision and maintenance to ensure it includes the most up-to-date information.

A major earthquake occurring in any jurisdiction could cause many casualties, extensive property damage, fires, flooding and other related hazards. These effects could also be aggravated by after-shocks. The purpose of the Earthquake Annex is to provide direction and guidance to the City of Los Angeles in responding to significant incidents following an earthquake. The Earthquake Annex has been developed to meet the following objectives:

- Provide a concept of operations and identify roles and responsibilities for each appropriate department within the City of Los Angeles;
- Define procedures necessary for the rapid notification of City departments in the event of an earthquake related emergency;
- Identify actions that can realistically be accomplished within a few hours to a few days to mitigate any adverse impact;
- Ensure consistency with Federal, State of California, the Los Angeles County Operational Area, and other local governments' emergency response plans and operations; and,
- Ensure compliance with Federal and State laws pertaining to emergency management and for people with disabilities.

The City's EOP Annexes are developed by incorporating a comprehensive planning process that includes the participation of all appropriate City departments that have a significant role and responsibility in response to and recovery from an earthquake scenario. A planning cadre is led by EMD who works with a task force consisting of City department representatives. Once plans are finalized, they are submitted for approval by the Emergency Operations Board (EOB), and then transmitted to the Mayor and the City Council for approval.

In September 2012, EMD initiated a citywide review and revision of more than twenty (20) EOP annexes and related emergency management policies to ensure they all meet the legal requirements of the Americans with Disabilities Act and Section 508 of the Rehabilitation Act. The EOP review and revision, required as part of CASE NO: CV-09-0287 CBM (RZx), Order Re Injunctive Relief, dated November 9, 2011, requires the detailed review by City response and recovery agencies. This project, per City Contract No. C-120742, also includes review and revision, or development of department level Standard Operating Procedures (SOP) that provide specific detail on how City emergency services are provided to people with disabilities and others with access and functional needs. The review and revision of the EOP, Annexes and SOPs will be completed by November 2014.

#### *Local Hazard Mitigation Plan*

EMD maintains the City of Los Angeles Local Hazard Mitigation Plan (LHMP). This plan is a requirement for the City to be eligible to apply for and accept pre and post-disaster hazard mitigation grant funds. This plan outlines earthquake-related hazards and identifies specific mitigation projects to mitigate seismic hazards or lessen the effects of a seismic occurrence. This plan is updated annually with input from all City departments who manage or direct hazard mitigation programs in the City of Los Angeles. The Plan is submitted every five (5) years to FEMA for approval.

#### *Commodities Points of Distribution (C-POD)*

Following any catastrophic disaster, it is critical for the City to have the capability to distribute life-sustaining commodities to all members of an affected community. A Commodity Points of Distribution (C-POD) Plan, drafted in 2012, was developed to enhance the capabilities of the City of Los Angeles by providing life-sustaining commodities to the community when normal access to commodities has been disrupted

due a significant disaster or earthquake.

Using strategies provided by the California Office of Emergency Services (Cal OES) and FEMA Region IX, in addition to the US Army Corps of Engineers (USACE) and FEMA guidance documents, specific commodities distribution needs and parameters have been identified. EMD is using these strategies to expand the current plan and pre-identify additional locations and develop site-specific Commodity Distribution Plans. The site specific plans include a facility assessment, facility usage, traffic management strategies, as well as a security plan. There are currently five (5) identified C-PODS plans within the City. An additional ten (10) sites will be identified through the current Logistics C-PODs project which will be completed by March 31, 2014.

### ***Emergency and Training and Exercises***

In conjunction with emergency planning for earthquakes, there are on-going training and exercise programs. EMD conducts training and develops exercises specific to the EOP and Annexes to ensure responder familiarity and plan accuracy. Exercising the EOP is accomplished through tabletop, functional and full-scale exercises involving all departments and agencies that have a direct or indirect responsibility or function. Lessons learned from exercises that involve an activation of the Emergency Operations Center (EOC) are identified through After Action Reports (AAR). An AAR includes a summary of the event, input from all agencies involved and recommendations for corrective actions.

#### *TEEX Enhanced Incident Management/Unified Command*

EMD continues to coordinate City and partner agency attendance to the Enhanced Incident Management/Unified Command (E IMUC) Course. This course is designed to enhance the participants' incident management and decision-making skills necessary to effectively and safely respond to a significant incident. The course trains participants in incident management skills, situational awareness development, and incident decision-making using a computer-driven simulation. The City has been awarded Homeland Security Grant funds for several years supporting this training. EMD has coordinated the attendance of more than 500 City and partner agency representatives and will provide refresher courses in the upcoming calendar year for these participants.

#### *Annual EOC Exercise*

EMD conducts an annual City EOC exercise that includes the participation of numerous City departments and partner agencies, each who have specific and pre-identified roles and responsibilities. The 2004 exercise included an earthquake scenario as did several exercises in the mid-1990s. The past four (4) EOC exercises were based on terrorism and critical infrastructure/security scenarios, as well as an earthquake generated tsunami exercise in 2006 conducted in conjunction with the County of Los Angeles.

The 2013 City EOC exercise is based on a catastrophic rain and flood scenario. This scenario has been the focus of the United States Geological Survey (USGS) and is described as "Ark Storm." Ark Storm is described as a huge storm that could last up to forty (40) or more days, bringing with it rain totals in feet (possibly 10 or even more), flooding huge portions of California. This storm would be a catastrophic event bringing devastation on par with Hurricane Katrina. The 2013 exercise will require participants to

practice their familiarity with EOC communications systems and equipment as well as coordination planning processes and protocols. More than 100 emergency responders from over thirty (30) City and outside agencies participate in the annual EOC exercise providing a realistic response to test the City's capabilities.

#### *EOC Readiness – EMD Duty Officer/Duty Team Program*

In order to provide ongoing multi-agency coordination services supporting the City's response to an emergency, EMD has established the Duty Officer/Team Program. Emergency Management Coordinator (EMC) II and EMC I level staff assume rotating scheduled responsibility for performing EOC duties to maintain situational awareness and to ensure effective inter-agency and inter-jurisdictional coordination of emergency preparedness, response and recovery activities affecting the City of Los Angeles. All EMD EMCs are assigned to a Duty Team to carry out numerous tasks associated with the City's EOC, the readiness of all its rooms and equipment, and various other responsibilities the Duty Team must do each day. Each Duty Team is managed by an assigned Duty Officer who will be at the classification of EMC II. Duties also include coordination and liaison responsibilities during the staff's regular work schedule, after hours, weekends and, as necessary, during planned events and actual emergencies.

#### ***Employee Readiness***

##### *Disaster Service Worker Program*

Mayoral Executive Directive No. 16, issued March 17, 2011, provides policy and guidelines for the City of Los Angeles Disaster Service Worker (DSW) Program. This is a mandated program based on the California Emergency Services Act. Disaster service, as defined for the DSW Program, is designed to aid in the response and recovery phases in a disaster or emergency. It does not include the day-to-day emergency response activities typically associated with law enforcement, fire services, or emergency medical services. Section 3100 of the California Government Code states that "all public employees are hereby declared to be disaster service workers subject to such disaster service activities as may be assigned to them by their superiors or by law." The program is mandatory for all non-sworn, full-time and part-time City employees.

The City of Los Angeles DSW Program is comprised of three parts: (1) the creation of an e-learning tool designed to train City employees on their role as a DSW and the importance of personal preparedness, (2) deputizing personnel from each department for the purpose of administering the Loyalty Oath, and (3) accurate record keeping of Citywide DSW Program. Training is delivered through an e-learning tool which explains DSW roles and responsibilities and the importance of personal preparedness. As required by the State of California, all public employees must take a loyalty oath. The oaths are administered by Departmental Personnel Officers (DPOs) and others deputized to deliver oaths by the City Clerk.

The initial compliance date for City DSW online training and Loyalty Oath completion was May 6, 2013, for existing civilian employees. Currently, over 32,200 City employees have completed the DSW training. All newly hired employees must complete the DSW online training and loyalty oath within 30 days of hire.

All public employees in the State of California are considered DSWs. They will be a vital resource in a disaster, helping in Citywide response and recovery efforts.

### *Building Emergency Education Program (BEEP)*

The City has a comprehensive Building Emergency Education Program (BEEP). The BEEP Program, administered through the Department of General Services (GSD), is designed to provide proper coordination of emergency training, planning and response in City facilities. Building Emergency Coordinators (BEC) are responsible for the preparation and maintenance of emergency plans for facilities; training of occupants for building evacuation and re-entry; supervision of Floor Wardens and City Emergency Response Teams; damage assessment observation; and decisions regarding evacuations and re-entry of the building after a disaster.

City employees in BEEP-managed facilities are provided training through GSD to introduce their Building Emergency Coordinator and Floor Wardens. Each floor warden is encouraged to train departmental personnel to become familiar with their department's Emergency Plan. Each employee is also given a copy of their building's Occupant Emergency Instructions to ensure familiarity with basic building safety procedures.

### *A Guide to Employee Preparedness*

EMD developed and distributed to all City employees in December 2012, an instructional guide for emergency preparedness entitled "A Guide to Employee Preparedness". This guide provides employees valuable information on how employees can prepare themselves and their families so that when an earthquake occurs, they can react effectively by having a plan for themselves and their family. The better employees prepare their families, the quicker and more effective they will be reporting to work to assist in the response and recovery efforts.

### *Monthly EMD Bulletins*

To further train employees, EMD develops and distributes a monthly emergency preparedness training bulletin. This training bulletin is hazard specific and provides timely information for employees and their families. Earthquake preparedness is a standing topic for this publication.

### ***Community-wide Readiness***

Community involvement in preparing for a major earthquake ensures a timelier and more coordinated recovery for the City. The following programs provide an overview of EMD's community wide readiness efforts.

### *Disaster Management District (DMD) Program*

To better serve the community and to provide a direct departmental contact, EMD has established the Disaster Management District (DMD) Program. This program develops and establishes comprehensive and collaborative strategies with external public and private sector entities. The DMD program consists of four (4) strategic geographic areas consistent with the four (4) Los Angeles Police Department (LAPD) bureaus. An

EMD EMC I is assigned to each of the four areas to administer and develop relationships and programs with external public and private sector organizations and community associations. This includes schools, hospitals, big box businesses, higher level educational institutions, religious organizations, non-profit organizations, and police and fire stations in these areas. EMD also uses the program to work with organize itself with neighborhood councils, council districts, home owner associations, and other community based organizations to establish relationships and better prepare the community for disasters.

### *Community Emergency Response Training (CERT)*

The Los Angeles Fire Department developed the Community Emergency Response Team (CERT) program. It is an all-risk, all-hazard training. This valuable course is designed to help protect and prepare individuals, families, neighbors and neighborhoods in an all types of emergency situations, including earthquakes. CERT members receive 17 1/2 hours (one day a week for seven weeks) of initial training. CERT is provided free of charge within the City of Los Angeles to anyone 18 or over. Classes are taught year-round, Monday-Friday, morning, afternoon, or evening. Classes can be held anywhere in the City of Los Angeles. Classes outside of LA City require special pre-approval. LAPD has partnered with LAFD to use existing resources to expand this valuable training program.

### *EMD 5 Steps Program – Community Preparedness Exercise and Training*

In 2012, EMD developed a program by acquiring homeland security grant funds to help neighborhoods develop neighborhood emergency plans. The “5 Steps Program to Developing a Neighborhood Disaster Plan” program consists of a “toolkit” that can be accessed from the EMD Website ([www.emergency.lacity.org](http://www.emergency.lacity.org)) to give guidance to communities to help them develop their own tailored Neighborhood Disaster Plan. EMD, working with Constant and Associates, developed a neighborhood emergency plan template, developed a tailored neighborhood emergency plan in the Arroyo Seco Neighborhood Council area of Montecito Heights, and exercised this plan on the Shakeout 2012 exercise date of October 17, 2012.

Additionally, EMD developed a “Just-In-Time” training video for other neighborhoods to use to develop their own neighborhood disaster plan. EMD also conducted four (4) workshops in the four (4) different DMD areas of the City. Staff worked with the various Neighborhood Councils to market the workshop and to provide the training necessary get other neighborhoods to develop their own plan. EMD has recently been awarded additional Homeland Security Grant funds to continue providing additional community training workshops at different locations throughout the City to further advocate the “5 Step Program.”

### *Informational Brochures*

EMD has developed a number of informational brochures that are related to earthquake preparedness, including personal preparedness, family preparedness, and neighborhood preparedness, and business preparedness. These brochures are distributed at all community outreach events that EMD attends. In addition, EMD leverages other City departments, the County of Los Angeles, the State, and Federal emergency preparedness partners who also produce emergency preparedness

informational brochures by distributing these publications at all community outreach and education events that EMD attends. EMD also provides these emergency preparedness brochures to council districts, neighborhood council areas, City department public counters, and other agency partners that may be hosting emergency preparedness outreach events in the City. These brochures are produced in accessible formats and several are available in different languages.

Some of the titles of the brochures distributed are as follows:

#### *City Publications*

- “Emergency Supply Checklist”
- “Comprehensive Guide to Family Preparedness”
- “ 5 Steps Program to Developing a Neighborhood Disaster Plan” Toolkit
  - Toolkit consists of:
    - Toolkit Overview
    - You Can Build a Neighborhood Disaster Plan in 5 Steps
    - Facilitator Guide
    - Neighborhood Survey
    - Sample Neighborhood Disaster Plan
    - Plan Template
    - Just-in-Time Training Video
    - Catastrophic Disaster Door Hanger
    - Meeting Reminder Flyer
- “How You Can Strengthen Your Home For The Next Big Earthquake in The Los Angeles Area”
- Disaster Preparedness Training
- Tsunami Emergency Information
  - - West Los Angeles
  - - Venice
  - - San Pedro
- Department on Disability Emergency Preparedness for People with Disabilities

#### *Other Publications*

- California Earthquake Alliance – 7 Steps to an Earthquake Resilient Business
- FEMA - Preparing Makes Sense for Older Americans: Get Ready Now
- FEMA - Emergency Financial First Aid Kit
- Business Preparedness
- Alert LA County (Mass Notification System Registration)
- A Children's Primer on Emergency Preparedness (County Brochures)
- How to Survive a Tsunami (State brochure)
- FEMA - Children's Activity Book
- FEMA - Preparing Makes Sense for People with Disabilities

#### *The Great Southern California ShakeOut Earthquake Exercise*

The Great *Southern* California ShakeOut began in 2008 as an endeavor to educate the public about emergency readiness during a large earthquake. EMD utilizes this opportunity to partner with community organizations and other governmental agencies to promote preparedness. For its first year, it was deemed the largest earthquake drill



in U.S. history with a total of 5.4 million participants spanning eight (8) counties in the southern part of the state. In 2009, the ShakeOut expanded to include the entire state of California (all 58 counties). More than 6.9 million Californians participated, practicing *Drop, Cover, and Hold On* and other aspects of family, school, and organizational emergency plans. The City participates each year. Through direction by the Mayor, City employees are encouraged to *Drop Cover and Hold On* and review their own preparedness requirements. The next statewide drill will be conducted on October 21, 2014.

### *Southern California Earthquake Alliance (SCEA)*

EMD is a participating member of the Southern California Earthquake Alliance (SCEA) which is one of four regional alliances that comprise the statewide *Earthquake Country Alliance*, a public-private partnership of leading earthquake professionals, emergency managers, government officials, business and community leaders, and others. The SCEA provides input on the implementation of ShakeOut in the Los Angeles region and shares information related to earthquake programs and outreach across the state.

### *Catastrophic Door Hanger Program*

EMD is currently working with the office of Councilmember Mitch Englander, Chair of the Public Safety Committee, to distribute catastrophic door hangers to the public. This door hanger can be used immediately following an earthquake (or any other disaster) to inform neighbors of those that are "OK" and those that need "HELP." This door hanger is beneficial and is a vital part to a neighborhood emergency plan, especially following a major earthquake so that neighborhoods and CERT members can assess their neighborhood in a quick and effective manner. EMD is promoting a "Neighbors helping Neighbor" concept because immediately following an earthquake; first responders may not be able to reach all Angelenos for several days based on the damage to infrastructure and other high priority issues that may affect emergency response.

### *A Red Guide to Disaster Recovery*

EMD is currently working on a pilot project to distribute a disaster recovery guide to the public entitled "The Red Guide to Disaster Recovery." Using Urban Area Security Initiative (UASI) grant funds, EMD developed and will distribute this guide to the community. This guide will provide valuable information immediately following an earthquake or other major disaster. This guide provides homeowners and business owners valuable information that includes:

- Taking safety precautions immediately after a disaster,
- Finding temporary shelter for family members and pets,
- Cleaning up and protecting personal property,
- Submitting and pursuing insurance claims,
- Finding financial aid,
- Selecting building contractors,
- Deciding whether to use a public adjuster,
- Finding trauma intervention and grief counseling,
- Recognizing and avoiding disaster scams, and
- Many other critical issues.

Working with a vendor, EMD coordinated the development of English, Spanish, large print and Braille guides. These guides will be available to the public before the end of the year.

### *AlertLA*

Alert LA County is a mass notification system used to contact Los Angeles County residents and businesses via recorded phone messages, text messages or e-mail messages in case of an emergency. EMD has partnered with the County of Los Angeles to disseminate emergency alerts and notifications to City residents, businesses and schools via **Alert LA County** to notify residents and businesses of emergencies or critical situations and provide information regarding necessary actions, such as evacuations. EMD has undertaken an aggressive campaign to inform the public about Alert LA County and to significantly increase registration of cell phone, Voice over IP number and email addresses in the system. Information about Alert LA County is published in all media alerts and bulletins as part of EMD's branding and outreach strategy.

### *California Integrated Network System (CISN) - Caltech Earthquake Early Warning System Partnership*

EMD has partnered with Cal Tech by participating as one of the test groups for the California Integrated Network System (CISN) earthquake early warning system. An earthquake early warning system can provide a few seconds to possibly more than a minute of warning prior to ground shaking following an earthquake. Warning messages can be used to reduce damage, costs and casualties in an earthquake. Earthquake early warning systems are currently operating in Mexico, Taiwan and Japan, but not in the United States. In California, the CISN is testing an early warning system and expanding its system of monitors.

The objective of earthquake early warning is to rapidly detect the initiation of an earthquake, estimate the level of ground shaking to be expected, and issue a warning before significant ground shaking starts. This can be done by detecting the first energy to radiate from an earthquake, the P-wave energy, which rarely causes damage. Using P-wave information, the location and the magnitude of the earthquake are estimated. This information is used to estimate the anticipated ground shaking across the affected region. This method can provide warning before the S-wave, which brings the strong shaking that usually causes most of the damage, arrives.

Feasibility studies of earthquake early warning methods in California have shown that the warning time would range from a few seconds to a few tens of seconds, depending on the distance to the epicenter of the earthquake. This is enough time to slow and stop trains and taxiing planes; to prevent cars from entering bridges and tunnels; to move away from dangerous machines or chemicals in work environments and to take cover under a desk; or, to automatically shut down and isolate industrial systems. Taking such actions before shaking starts can reduce damage and casualties during an earthquake. It can also prevent cascading failures in the aftermath of an event. For example, isolating utilities before shaking starts can reduce the number of fire initiations.

## *California Residential Mitigation Program - Earthquake Brace + Bolt registration phase of the Pilot Program:*

In September 2013, EMD formed a partnership with the Cal OES California Residential Mitigation Program (CRMP). This program was established to carry out mitigation programs to assist California homeowners who wish to seismically retrofit their houses. The City of Los Angeles has partnered with CRMP as part of a pilot program to seismically retrofit a select number of residential homes in Oakland and Los Angeles (Eagle Rock area) to make them safer. These areas were selected, in part, because they have a high concentration of homes that meet certain state building code retrofit criteria. The goal of the program is to decrease the physical and financial damage of earthquakes on single-family residential houses.

CRMP's goal is to provide grants and other types of assistance and incentives for these mitigation efforts. CRMP is conducting this pilot incentive program through the Spring of 2014 for homeowners who are willing to participate and help shape the incentive Program. A typical retrofit can cost between \$2,000 and \$10,000 depending upon the size of the house and the amount of work involved. The Pilot Program will provide up to \$3,000 to pre-qualified homeowners who make simple earthquake retrofits to help protect their largest investment and their loved ones.

### *ReadyLA.org*

This EMD website, updated to ensure Section 508 compliance, provides families, communities and business with information on how to create an emergency plan and how to stock an emergency kit. It provides information on special considerations for senior citizens, pets and people with disabilities and others with access and functional needs during an emergency. The site is also mirrored in Spanish.

### *Social Media*

EMD has expanded the awareness of the Internet through its use of Facebook and Twitter. The sites are Facebook.com/readylaemd and Twitter.com/readyla. These sites are not only used to post readiness messages but they are used to keep our subscribers updated on the latest information on any significant event or disaster occurring in the City of Los Angeles. These sites are published in all media alerts and bulletins as part of the department's ongoing outreach strategy.

### *EMD Website*

The EMD website is a component of the larger City of Los Angeles website. The web address is [www.emergency.lacity.org](http://www.emergency.lacity.org). The site is maintained by EMD and contains information specific to Los Angeles emergencies and threats, the EMD Strategic Plan, Neighborhood Disaster Planning Tool, Disaster Service Worker information and many emergency readiness resources. It also has a link to current emergency news and updates, AlertLA and EMD's social media sites. This site contains information about the Emergency Management Department structure and a subscription page for Emergency Management Committee (EMC) and Emergency Operations Board agendas and minutes.

### *Information Helpline*

Understanding that not every Angeleno has access to the Internet or social network sites, EMD has a dedicated 1-800 Information Helpline. The number is (800) 439-2909. This number is updated when disasters or significant events happen in the City of Los Angeles as needed. This number is also published in all media alerts and EMD bulletins.

### *Media Task Force*

In 2009, EMD revived and assumed leadership over the City's Media Task Force. Participants are public information officers from various City departments and stakeholder agencies. The Media Task Force has refocused its efforts to: train public information officers on the process and protocol for working in the EOC during activations; strengthen the skill sets of public information officers to improve their coordination and dissemination of crisis information; provide public information officers with emerging trends in crisis management; provide access to some of the leading subject matter experts in crisis communications; and to promote a change culture when it comes to crisis information management in the City by reinforcing the thesis of "one message, many messengers." Carmageddon I and II enlisted the help of Media Task Force participants and the coordinated messaging effort before and during the events was lauded as the one of the key factors that contributed to the public's awareness and cooperation during the freeway closure.

### *Sheltering Improvements*

Through the Shelter and Welfare Subcommittee of the City's EMC, many advancements have been made to the City's sheltering process. All potential Department of Recreation and Parks facilities which could be used as a shelter, or other critical disaster site, have been surveyed for use. The surveys refine the process for selecting shelter locations, ensuring sites selected are accessible for people with disabilities and others with access and functional needs.

Through a formal agreement with the American Red Cross, EMD, in cooperation with the Department of Recreation and Parks and Department on Aging, continues to support the pre-staging of shelter supplies at facilities across the City. Supplies include durable medical supplies, consumable medical supplies and mobility equipment, all essential to sheltering the public in a disaster situation. EMD is also in the process of formalizing an agreement with the Los Angeles Unified School District for use of their schools as shelters in catastrophic emergencies.

### *National Weather Service TsunamiReady Certified City*

Tsunami's are a by-product of earthquakes and are very dangerous to people living on the coastline. The *TsunamiReady* Program, developed by the National Weather Service, is designed to help cities, towns, counties, universities and other large sites in coastal areas reduce the potential for disastrous tsunami-related consequences. Since the devastating Indonesian Earthquake and Tsunami that killed hundreds of thousands of people in December 2004, the City of Los Angeles and the Emergency Management Department have made it a goal to become a recognized National Weather Service

(NWS) *TsunamiReady* and *StormReady* City. On October 17, 2011, the City of Los Angeles achieved the NWS *TsunamiReady* and *StormReady* City designation by successfully passing a comprehensive application and inspection review process of its communication infrastructure, community outreach and education programs, tsunami and storm related planning, and emergency response protocols.

The City of Los Angeles met rigorous criteria, including the development of severe weather and tsunami safety plans, communications infrastructure, installation of dozens of tsunami hazard and evacuation signs, as well as actively promoting weather and tsunami safety through public awareness activities and training.

While no community is tsunami proof, this increased level of severe weather and tsunami preparedness will help reduce the loss of life and property damage from these potentially catastrophic events before they arrive. This designation makes the City of Los Angeles the largest City in the Western United States to achieve this recognition.

## Findings:

### *Department of Building and Safety*

The City of Los Angeles Department of Building and Safety (LADBS) have the following earthquake preparedness measures and protocols in place.

#### *Safety Assessment Team*

LADBS has established 19 Safety Assessment Teams (SAT), comprised of 111 inspectors and engineers, to conduct structural evaluations of the Big 19 buildings of the City where City departments are located. This ensures the City of Los Angeles' continuation of operations. The Big 19 buildings are the following:

1. City Hall  
200 North Spring Street  
Los Angeles, CA 90012
2. City Hall East  
200 North Main Street  
Los Angeles, CA 90012
3. City Hall South  
111 East First Street  
Los Angeles, CA 90012
4. LAPD Administration Building  
100 West 1st Street  
Los Angeles, CA 90012
5. Personnel Department Building  
700 East Temple Street  
Los Angeles, CA 90012
6. Piper Tech  
555 Ramirez Street  
Los Angeles, CA 90012
7. San Pedro  
638 South Beacon Street  
San Pedro, CA 90731
8. Braude Building  
6262 Van Nuys Boulevard  
Van Nuys, CA 91401
9. WLA City Hall  
1645 Corinth Avenue  
Los Angeles, CA 90025
10. Metro Communication/Dispatch  
100 North Los Angeles Street  
Los Angeles, CA 90012
11. Van Nuys City Hall  
14410 Sylvan Street  
Van Nuys, CA 91401
12. Figueroa Tower  
201 North Figueroa Street  
Los Angeles, CA 90012
13. Figueroa Tower

- 221 North Figueroa Street  
Los Angeles, CA 90012
14. Wilshire Towers  
3550 Wilshire Boulevard  
Los Angeles, CA 90029
  15. Inspection WLA  
11620 Wilshire Boulevard  
Los Angeles, CA 90025
  16. Garland Building  
1200 West 7th Street  
Los Angeles, CA 90017
  17. Convention Center  
1201 South Figueroa Street  
Los Angeles, CA 90015
  18. Valley 911 Building  
23004 Roscoe Boulevard  
Woodland Hills, CA 91304
  19. Public Works-Broadway Building  
1149 South Broadway  
Los Angeles, CA 90015

SATs immediately report availability following any M5.0+ earthquake within the City to perform safety assessment evaluation of the 19 essential, pre-designated City facilities. SATs receive classroom and field training at their assigned City facility utilizing the Cal OES, Post-Disaster Safety Assessment Program which is based on ATC-20-1 (Procedures and Guidelines for Evaluating the Safety of Buildings).

#### *Safety Assessment Program Evaluators*

LADBS has a total of 385 personnel who are trained in conducting structural assessments. Safety Assessment Program (SAP) evaluators are engineers, architects, and building inspectors that are certified by Cal OES and trained in ATC-20-1. Engineers and architects are licensed by the State of California. All building inspectors and building mechanical inspectors have certifications in building construction from the International Code Council.

SAP evaluators provide inspection of buildings and structures to determine imminent and potential hazards to persons and property. Upon the completion of the safety assessment, the responders post status signage on the buildings to indicate its safety condition to occupy or vacate the building.

LADBS currently has 266 employees who are SAPs. The Department has an additional 119 engineers and inspectors who can conduct structural evaluations within the City. They are also trained on ATC20-1 standards.

#### *Supplies*

LADBS has six (6) cargo containers located throughout the City filled with supplies that are essential to respond to a major earthquake. There is a courier system in place that will allow for the expeditious delivery of supplies to areas where they are needed.

The following Chapters of the Los Angeles Building Code (LABC) are mandatory retrofit provisions to buildings that have been identified that are prone to significant damage, including possible collapse, in a moderate to major earthquake:

- **CHAPTER 88 – EARTHQUAKE HAZARD REDUCTION IN EXISTING BUILDINGS**

The purpose of this chapter is to promote public safety and welfare by reducing the risk of death or injury that may result from the effects of earthquakes on unreinforced masonry bearing wall buildings constructed before 1934. Such buildings have been widely recognized for their sustaining of life hazardous damage as a result of partial or complete collapse during past moderate to strong earthquakes. This chapter provides systematic procedures and standards for identification and classification of unreinforced masonry bearing wall buildings based on their current use. Priorities, time periods and standards are also established under which these buildings are required to be structurally analyzed and anchored. Where the analysis determines deficiencies, this Chapter requires the building to be strengthened or demolished.

- **CHAPTER 89 – SECTION 8908 - SPECIAL PROVISIONS FOR THE REPAIR OF WELDED STEEL MOMENT FRAME BUILDINGS LOCATED IN HIGH EARTHQUAKE DAMAGED AREAS**

The purpose of this section is to provide a practicable method, where earthquake damaged welded steel frame moment buildings may be repaired. Welded steel moment frame buildings located in high earthquake damaged areas experienced damage in the beam to column moment connection as a result of the earthquake of January 17, 1994, and its aftershocks. If the department determined that a commercial building is a welded steel moment frame building located in a high earthquake damaged area, then the department may have issued an order to the owner, as shown on the last equalized assessment roll, to repair all damaged welded connections.

- **CHAPTER 91 - EARTHQUAKE HAZARD REDUCTION IN EXISTING TILT-UP CONCRETE WALL BUILDINGS**

The purpose of this chapter is to promote public safety and welfare by reducing the risk of death or injury that may result from the effects of earthquakes on tilt-up concrete wall buildings designed under the building codes in effect prior to January 1, 1976. This chapter provides systematic procedures and standards for identification and classification of tilt-up concrete wall building based on the current use of the building. Priorities, time periods, and standards are also established under which these buildings are required to be structurally analyzed and strengthened for seismic resistance. Where the analysis determines structural deficiencies, this chapter requires the building to be strengthened or demolished.



The following LABC Chapters are voluntary retrofit prescriptions to buildings that have been identified that are prone to significant damage, including possible collapse, in a moderate to major earthquake:

- *CHAPTER 92 - VOLUNTARY – EARTHQUAKE HAZARD REDUCTION IN EXISTING WOOD FRAME RESIDENTIAL BUILDINGS WITH WEAK CRIPPLE WALLS AND UNBOLTED SILL PLATES*

The provisions of this chapter are intended to promote public safety and welfare by reducing the risk of earthquake-induced damage to existing wood-framed residential buildings. Prior to 1960, most wood frame residential buildings were built with raised wood floors supported by short wood stud walls known as cripple walls. These cripple walls are typically braced with weak seismic materials such as portland cement, plaster or horizontal wood siding. In addition, wood frame buildings built under building codes in effect prior to July 1938, were not required to be bolted to their foundations. Recent earthquakes have shown that if a building has weak cripple walls or is unbolted, it may fall off its foundation even in moderate earthquakes. Fallen buildings have collapsed, caught fire or needed extensive repairs to restore their occupancy.

This chapter sets prescriptive standards for strengthening of underfloor enclosures that shall be permitted by the Superintendent of Building without requiring plans or calculations prepared by an architect or an engineer. This chapter also provides a design standard for the use of alternate materials or an alternate method of construction in lieu of the prescriptive standards.

- *CHAPTER 93 - VOLUNTARY EARTHQUAKE HAZARD REDUCTION IN EXISTING WOOD FRAME RESIDENTIAL BUILDINGS WITH SOFT, WEAK OR OPEN FRONT WALLS*

The purpose of this chapter is to promote the public welfare and safety by reducing the risk of death or injury that may result from the effects of earthquakes on existing wood-frame multi-unit residential buildings. This chapter creates minimum standards to strengthen the more vulnerable portions of these structures. When fully followed, these minimum standards will substantially improve the performance of these buildings but will not necessarily prevent all earthquake related damage. The provisions of this chapter applies to all existing wood frame buildings or portions thereof, designed using the Los Angeles Building Code in effect before January 1, 1995 which are used as hotels, lodging houses, congregate residences or apartment houses where: 1) The ground floor portion of the wood frame structure contains parking or other similar open floor space that causes soft, weak, or open front wall lines as defined in this chapter and there exists one or more levels above, or 2) The walls of any story or basement of wood construction are laterally braced with nonconforming structural materials as defined in this chapter and there exists two or more levels above.

- *CHAPTER 94 - VOLUNTARY–EARTHQUAKE HAZARD REDUCTION IN EXISTING HILLSIDE BUILDINGS*

The purpose of this chapter is to promote public safety and welfare by reducing

the risk of death or injury that may result from the effects of earthquakes on existing hillside buildings constructed on or into slopes in excess of one unit vertical in three units horizontal (33.3-percent slope). The provisions of this chapter may be applied to all existing hillside buildings designed under building codes effective prior to June 19, 1995. If only a portion of the building is supported on or into the slope, these regulations may be applied to the entire building. Seismic retrofit work as described in this chapter may be applied to the portion of the structure defined as the base-level-diaphragm and below. Non-habitable accessory buildings, decks not supporting the main building, and existing conditions above the base-level-diaphragm are exempt from these regulations.

- **CHAPTER 95 - VOLUNTARY-EARTHQUAKE HAZARD REDUCTION IN EXISTING REINFORCED CONCRETE BUILDINGS AND CONCRETE FRAME BUILDINGS WITH MASONRY FILL**

The purpose of this chapter is to promote public safety and welfare by reducing the risk of death or injury that may result from the effects of earthquakes on concrete buildings and concrete frame buildings with masonry infills. These non-ductile concrete buildings are frequently used in Los Angeles for department stores, office buildings, hotels, parking structures and apartment houses. The provisions of this chapter may be applied to all buildings designed under building codes in effect prior to January 13, 1976, or built with building permits issued prior to January 13, 1977, having concrete floors and/or concrete roofs supported by reinforced concrete walls or concrete frames and columns, and/or concrete frames with masonry infills.

- **CHAPTER 96 - VOLUNTARY-EARTHQUAKE HAZARD REDUCTION IN EXISTING REINFORCED CONCRETE AND REINFORCED MASONRY WALL BUILDINGS WITH FLEXIBLE DIAPHRAGMS**

The purpose of this chapter is to promote public safety and welfare by reducing the risk of death or injury that may result from the effects of earthquakes on reinforced concrete and masonry wall buildings with flexible diaphragms designed under the building codes in effect prior to January 1, 1995. These buildings are potentially hazardous and prone to significant damage, including possible collapse, in a moderate to major earthquake. These structures typically shelter large numbers of persons and property for retail, food markets, food distribution centers, warehousing, aerospace, industrial/ manufacturing and general business and office use. Their continued use after an earthquake is also essential to the local economy and its post-earthquake recovery.

## **Recommendations:**

### 1. Annual EOC Earthquake Exercise:

EMD recommends that the 2014 Annual EOC Functional Exercise be based on an earthquake scenario. The last Annual EOC Exercise that was based on an earthquake scenario was in 2004 and the City is overdue to exercise its earthquake response capabilities.

### 2. California Integrated Network System (CISN) - Caltech Earthquake Early Warning System Partnership:

Continue to support Cal Tech in developing the CISN Earthquake Early Warning System. Support advocating for additional funding of the program so that the earthquake early warning system alert notifications can be accessed through personal cell phone calls, texts, emails and other types of communication devices that will give the public sufficient time to take appropriate precautionary action.

### 3. Community Training and Exercise Programs

Continue to support the development and distribution of tools and material designed to assist in the community preparing for and understanding how to recovery from disaster. These include the expanded use of the Red Guide to Disaster Recovery, participation in the Great California Shakeout, 5 Steps Guide to Developing a Neighborhood Disaster Planning, Catastrophic Door Hangars, and expanded participation of mass notification systems.

This report provides a comprehensive summary of numerous efforts being undertaken by EMD and the LADBS to ensure the City remains ready, without notice, for a major catastrophic earthquake. The planning, training and operational readiness for such an event requires the collaborative efforts of every City department, commission and board.

If there are any questions or if additional material is needed, please contact me at 213-484-4822 or Larry Meyerhofer at 213-484-4812.

c: Eileen Decker, Deputy Mayor for Homeland Security and Public Safety  
Raymond Chan, Interim General Manager, LADBS