

| City | Retrofit Standard | Timeline | Enforcement | Compliance or Demolition Rate | Incentives |
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| <p>Berkeley</p> <p>(700)</p> <p>Program's effective date is 11/14/91. Subsequent changes extended compliance times on 4/24/1994, 2/27/1997, and 12/14/2000.</p> | <p>1997 Uniform Code for Building Conservation Appendix Chapter 1 as amended Historic Buildings comply with more stringent of State Historical Building Code or UCBC</p> <p>Essential and hazardous facilities as defined by Building Code comply with more restrictive of UCBC & requirements for new construction. Prescriptive standards can be used for "simple buildings" rectangular or square buildings ≤ 2 stories.</p> | <p>2 years: engineering report due and obtain a building permit for seismic retrofitting within the time frame set by the six risk categories:</p> <p>Timeline depends on level of risk.</p> <ul style="list-style-type: none"> Risk Category (RC) I = Buildings with occupant load ≥ 1000; hospitals, fire & police stations, govt admin offices. Complete retrofit = three years. RC II = Commercial buildings with occupant load ≥ 300; Residential buildings with > 100 living units/bedrooms; Mixed use with combined occupancy load > 300. Complete retrofit = 4 years. RC III = Commercial buildings with occupancy load ≥ 100; Residential Buildings with ≥ 50 living units/bedrooms; Mixed use with combined occupancy load > 100. Complete retrofit = 5 years. RC IV = Commercial buildings with occupancy load ≥ 50; Residential Buildings with < 50 living units/bedrooms; Mixed use with combined occupancy load > 50. Complete retrofit = 6 years. RC V = Commercial buildings with occupancy load ≤ 50; Residential Building with ≤ 20 living units/bedrooms; Mixed use with combined occupancy load ≤ 50. Complete retrofit = 7 years. RC VI = Nonresidential building used < 20 hours per week; any building with masonry veneer ≥ 10' in height; any Building with masonry parapet with ratio > 1½; building with masonry infill located in high pedestrian traffic corridor. Complete retrofit = 10 years. <p>Hardship extensions for up to 18 months.</p> <p>City could order immediate retrofit in specified circumstances.</p> | <ul style="list-style-type: none"> Declaration of public nuisance Notice of Violation ordering abatement File a notice against property Transfer of title | <p>1% demolished.</p> <p>All but 22 buildings remain to be retrofitted or demolished.</p> | <p>Some city funds can be used through the property transfer tax seismic rebate program as partial funding for upgrades. The city made a loan to one non-profit and waives building permit fees for certain non-profit buildings.</p> |
| <p>Los Angeles</p> <p>(8,200 but 1,900 exempted for misidentification = 6,300)</p> <p>Division 88 was enacted in 1981. Standards were adopted on 6/8/1984, and became effective on 7/29/1984.</p> | <ul style="list-style-type: none"> Buildings were rated and classified into 4 risk groups based on occupant load. Parapets & exterior wall appendages required to be removed, stabilized or braced. Max height of unbraced parapet is 1.5-x thickness. | <p>Owners had to submit documentation demonstrating building's compliance, how they intended to comply, or plans to demolish the building. If the owner failed to submit a structural analysis the department issued a Service of Order to compel compliance within 270 days.</p> <p>Complete structural alterations or building demolition:</p> <ul style="list-style-type: none"> Obtain building permit = 1 year. Commence construction from time of permit issuance = 180 days Complete construction = 3 years <p>Wall anchor installation:</p> <ul style="list-style-type: none"> Obtain building permit = 180 days. Commence construction from time of permit issuance = 270 days | <p>City files notice with property records that building is subject to retrofit requirements. City may order building to be vacated; if owner doesn't comply within 90 days after order to vacate, city can order demolition of building.</p> <p>Failure to comply is misdemeanor.</p> <p>Demolition of building by city allowed for vacant buildings.</p> | <p>19%, approximately 1,000, URM buildings were demolished, with the city directly responsible for removing 9 of the 1,000 buildings.</p> <p>As of 2010, out of the 6,300 URM buildings targeted, only two have yet to be retrofitted or demolished.</p> | <p>None.</p> <p>State funding was acquired for URM inventory. Permit fees would cover associate review and inspection costs.</p> |

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| | | <ul style="list-style-type: none"> Complete construction = 1 year. <p><i>Time extension possible for wall anchor installations</i></p> <p>Vacant buildings (special requirements): One-story buildings with wall anchors installed within 60 days of notice.</p> <ul style="list-style-type: none"> Respond to compliance notice with plans and structural analysis = 180 days Obtain building permit to retrofit= 270 days. Commence construction from time of permit issuance = 90 days Complete construction = 18 months. Obtain building permit to demolish = 210 days Commence demolition from time of permit issuance = 21 days Complete demolition = 300 days after notice. <p>All other vacant buildings:</p> <ul style="list-style-type: none"> Respond to compliance notice with plans and structural analysis = 60 days Obtain building permit to perform necessary alterations = 120 days. Commence construction from time of permit issuance = 21 days Complete demolition = 120 days after permit issuance Complete construction = 365 days after notice | | | |
| <p>Oakland</p> <p>(1,312 an additional 300 were removed from inventory for a variety of reasons)</p> | <p>Mandate covered Bolts Plus standard but incentives were provided to upgrade to UCBC standard by allowing buildings to be transferred to more lucrative uses, such as live-work lofts</p> <p>Bearing wall buildings: UCBC applied except that current code applied to parapets & nonstructural falling hazards</p> <p>Required to upgrade the following elements "to mitigate potential falling hazards":</p> <ul style="list-style-type: none"> Secure roof & floor to exterior walls, design connections for out of plane forces on the walls Brace or reinforce parapets to current code, Remove or upgrade nonstructural falling hazards to comply with current code, Stairways, corridors, exit balconies, exit courts, exit passageways | <p>Building Dept. required to identify priority buildings based on soil type, # stories, adjacent pedestrian & vehicle traffic, use, # of occupants, complexity of retrofit work. 3 levels established.</p> <p>Owners have up to 7 years to complete alterations, dependent on URM walls and identified priority levels risk.</p> <p><i>URM bearing walls:</i></p> <ul style="list-style-type: none"> Priority level 1 (high risk) = 1 year to submit building permit, 2 years to complete construction. Priority level 2 = 2 years to submit building permit, 3 years to complete construction Priority level 3 = 3 years to submit building permit, 4 years to complete construction <p><i>Frame building with URM infill walls & buildings with URM veneer:</i></p> <ul style="list-style-type: none"> Priority level 1 = 3 year to submit building permit, 5 years to complete construction. Priority level 2 = 4 years to submit building permit, 6 years to complete construction Priority level 3 = 5 years to submit building permit, 7 years to complete construction | <p>\$1,000 for failure to file timely Building permit application & engineering analysis; \$5,000 max per building (unclear how the fine accumulates)</p> <p>\$2,000 per month for failure to complete upgrade; \$10,000 max per building City can file lien.</p> <p>Additional enforcement actions:</p> <ul style="list-style-type: none"> Notify all parties with financial interest in property; Record statement with property records; Post a sign designating Building as potentially hazardous; Revoke Certificate of Occupancy & evacuate Building 3 years after date work was due Declare public nuisance Injunction | <p>7% demolished. By 2010 95% retrofitted or demolished. 200+ met voluntary UCBC standard.</p> | <p>None.</p> <p>Actual costs of seismic upgrades conducted shortly after ordinance was enacted were 40-50% lower than originally estimated because a number of contractors from all over the state focused on this type of work. This built efficiencies in their work and produced competition for jobs. The city unsuccessfully attempted to create a MelloRoost assessment district to provide low-interest loans for URM upgrade but could not get underwriting for the program due to risks.</p> |

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| | <p>required to be protected from falling hazards</p> <p>Frame buildings with URM walls & buildings with URM veneer:</p> <ul style="list-style-type: none"> • Brace or reinforce parapets to current code, • Remove or upgrade nonstructural falling hazards to comply with current code, • Stairways, corridors, exit balconies, exit courts, exit passageways required to be protected from falling hazards | | <ul style="list-style-type: none"> • Withhold other Building permits for the property • Charge Building owner with an infraction | | |
| <p>San Diego</p> <p>(1,100 original estimate – down to 858 after further scrutiny)</p> | <p>Mandatory provisions require URM building install wall anchoring and parapet bracing systems. Additional seismic strengthening may be required based upon triggering mechanism associated with remodeling, renovation or change of occupancy.</p> | <p><i>Mandatory for all buildings:</i> Wall anchorage and parapet bracing = 5 years to complete all construction.</p> <p><i>Triggering mechanism required:</i> Essential or hazardous facilities:</p> <ul style="list-style-type: none"> • Submit Structural Survey and Engineering Report (SSER) = 120 days • Submit retrofit guideline document = 240 days • Complete construction or demolition = 5 years. <p>Remodels exceeding 100% of valuation and change to a higher hazard category:</p> <ul style="list-style-type: none"> • Submit SSER = 120 days • Submit retrofit guideline document = 240 days • Complete all phases of construction = 10 years. <p>Unsafe buildings (If building is deemed unsafe then the abatement process is initiated):</p> <ul style="list-style-type: none"> • Submit SSER and Engineering Report = 120 days • Submit retrofit guideline document = 240 days • Abatement process is followed. <p>Remodels exceeding 50% of valuation (not essential or hazardous):</p> <ul style="list-style-type: none"> • Complete construction = 5 years. Owners may submit SSER establishing existing anchoring system meets requirements. <p>Historic buildings:</p> <ul style="list-style-type: none"> • Shall comply with minimum structural provisions of the California Historical Building Code (SHBC, Title 24, Part 8). | <p>Vacation and demolition per building official.</p> | <p>Achieved 95% compliance in 2010.</p> <p>Over 46% of the URM buildings have complied with the mandatory provisions of the ordinance (parapet bracing & roof to wall ties).</p> <p>Approximately 25% were demolished.</p> | <p>None.</p> |

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| <p>San Francisco</p> <p>(2,000)</p> | <p>Bolts Plus</p> <p>Buildings were classified into 4 risk categories depending upon soils, density, and use. Owners of URM buildings were required to have a structural analysis performed by a registered civil or structural engineer or licensed architect, and, if the building did not meet the minimum code standards specified, the owner must structurally strengthen the building or have the building demolished in accordance with the program implementation schedule.</p> | <p>Building Official must issue notices by 2/15/1993 Up to 13 years to complete alterations, depends on level of risk. Measured from 2/15/1993</p> <ul style="list-style-type: none"> 3.5 years for Level 1 (high) risk = assemblies ≥ 300 occupants, schools, or > 3 stories on poor soil (areas of poor soil are mapped) 5 years for Level 2 = non-Level 1 on poor soil in certain mapped locations 11 years for Level 3 = buildings in Level 2 mapped areas not on poor soils 13 years for Level 4 = all other URMs. Phasing may be allowed | <ul style="list-style-type: none"> Barricade or abate building and recover costs; \$500 daily fines and incarceration. Notice and inventory filed with property records until Building complies. 6 months in jail per day | <p>Approx. 150 not in compliance as of June 2008.</p> <p>8% demolished - approx. 158</p> | <p>The City approved the sale of \$350 million state bonds to cover the cost of loans made to owners of URM buildings to pay for retrofitting.</p> <p>Few URM building owners took advantage of the loan program due to complex loan qualification requirements.</p> |
| <p>Santa Monica</p> <p>(2,000)</p> | <p>Essential and hazardous facilities shall be strengthened to meet the requirements of the Building Code of the City of Santa Monica for new buildings of the same occupancy category.</p> <p>All buildings, other than essential or hazardous facilities, shall be strengthened to meet the requirements of Appendix Chapter A1 of the California Existing Building Code and the additional provisions of this Chapter</p> <ul style="list-style-type: none"> Type I building is any unreinforced masonry bearing wall building that must be usable in the event of an emergency, and shall include hospitals, police and fire stations and disaster recovery centers. Type II building is any unreinforced masonry bearing wall building with one hundred or more occupants and without masonry shear walls or wood frame cross-walls spaced less than forty feet apart in each story. Type III building is any unreinforced masonry bearing wall building with one of the following conditions: (1) One hundred or more occupants and with masonry or wood frame cross-walls spaced less than forty feet apart in each story. (2) At least | <p>Install wall anchors Type I,II,III, IV</p> <ul style="list-style-type: none"> File for permit & submit plans = 180 days Commence construction = 270 days Complete construction = 1 year <p>If wall anchors are installed then make structural alterations</p> <p>Type I and II</p> <ul style="list-style-type: none"> File for permit & submit plans = 635 days (1 year, 9 mos) Commence construction = 2 years Complete construction = 4 years <p>Type III & IV</p> <ul style="list-style-type: none"> File for permit & submit plans = 2,825 days (7 years, 9 mos) Commence construction = 8 years Complete construction = 10 years <p>If wall anchors are NOT installed then make structural alterations</p> <p>Type I and II</p> <ul style="list-style-type: none"> File for permit & submit plans = 270 days Commence construction = 1 year Complete construction = 2 years <p>Type III</p> <ul style="list-style-type: none"> File for permit & submit plans = 1,000 days (2 years, 9 mos) Commence construction = 3 years Complete construction = 4 years <p>Type III</p> <ul style="list-style-type: none"> File for permit & submit plans = 1,365 days (3 years, 9 mos) | <p>Vacate the building until that portion of the building is in compliance. After 90 days has elapsed (in nonconformance), the Building Officer may either initiate a “Dangerous Building” demolition process or complete necessary structural alterations and place a lien against the property to recover associative cost.</p> | <p>Approximately 1,850 URM buildings out of the original 2,000 are in complete compliance with the law as of June 2008. According to the Department of Building Inspection, many of these buildings have completed retrofits but have unresolved ADA access issues or fee payments obstacles.</p> <p>Approximately 100 URMs were demolished.</p> | <p>Suspension of plan check and building permit fees that are necessary to comply with the provisions of the seismic strengthening program. Waiver of fees is granted only if the owner meets the aforementioned time limits.</p> |

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| | <p>twenty but fewer than one hundred occupants.</p> <ul style="list-style-type: none"> • Type IV building is any unreinforced masonry bearing wall building with fewer than twenty occupants | <ul style="list-style-type: none"> • Commence construction = 4 years • Complete construction = 5 years | | | |
| <p>Seattle (proposed) (1,160)</p> | <p>Modified Bolts Plus retrofit for qualifying URMs. It requires that:</p> <ul style="list-style-type: none"> • parapets be braced; • floors and roofs be structurally connected to URM walls; • framing be interconnected to strengthen floors and roofs; • weak interior and exterior bearing walls be strengthened. <p>The technical committee recognized that this retrofit standard is not appropriate for all building configurations. Qualifying buildings would require a minimum amount of retrofit work to connect a building's walls to the floors and roof. URMs that do not qualify for the modified Bolts Plus standard would be required to meet a more rigorous standard with an engineered design.</p> | <p>Critical-risk: schools and critical facilities (hospitals, fire stations, etc.)</p> <ul style="list-style-type: none"> • Assessment = +1 year • Apply for Permit = +1 year • Approve Permit = +1 year • Retrofit complete = +4 years • Total time allowed = 7 years <p>High-risk: buildings greater than 3 stories on poor soil or with more than 100 occupants</p> <ul style="list-style-type: none"> • Assessment = +2 years • Apply for Permit = +2 years • Approve Permit = +1 year • Retrofit complete = +5 years • Total time allowed = 10 years <p>Medium-risk: all other URM buildings</p> <ul style="list-style-type: none"> • Assessment = +3 years • Apply for Permit = +2 years • Approve Permit = +1 year • Retrofit complete = +7 years • Total time allowed = 13 years | <p>Assessment:</p> <ul style="list-style-type: none"> • Enforcement for non-compliance • Notice of violation to owner with fine of \$500/quarter • Public posting of non-compliance on the City online database • Block on any new permits for the building • City contracts with a third party to conduct assessment and bills property owner for assessment fees and associated administrative costs <p>Permit Application</p> <ul style="list-style-type: none"> • Notice of violation to owner with fine of \$1,000/quarter <p>Permit Approval</p> <ul style="list-style-type: none"> • Notice of violation to owner with fine of \$1,000/quarter • Public posting of non-compliance at property • Sunsetting of incentives, and permit fees are reinstated <p>Completed Retrofit:</p> <ul style="list-style-type: none"> • Notice of violation to owner with copy to tenants, with civil penalty of \$45,000/quarter • Lien on property based on outstanding fines • Public posting of non-compliance on-site • Block on any new permits for the building • Abatement of the property by the City | | <p>Transfer of Development Rights</p> <p>Tax abatement</p> <p>Revolving Loan Fund - creates a central fund through which multiple loans are made to borrowers. Through regular repayments of the original loan, borrowers replenish the central fund. A URM revolving loan fund could initially be funded through an endowment or through a partnership with lending institutions.</p> <p>Architecture & Engineering grants and resources - The City would provide funding for building owners to access architectural and engineering services in support of a building's retrofit design.</p> <p>10% Federal rehabilitation tax credit – existing federal tax credit allows users to write off 10% of eligible construction costs for retrofits. The tax credit applies to any non-residential building built before 1936 and does not require a formal review process if the rehabilitation is for a non-historic building. The right to the tax credit can also be sold by the owner. A similar 20% tax credit is available to certified historic structures that are either listed or eligible for listing on the National Register of Historic Places or a contributing building to a National Register historic district. A certified historic structure may also be considered a Seattle landmark building.</p> <p>General obligation bonds – Unlimited tax general obligation bonds are voter-approved municipal bonds secured with the obligation of the City to use available resources, including tax revenue, to repay the debt. General obligation bonds could be used to fund a City-administered retrofit</p> |

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| | | | | | <p>funding program. General obligation bonds must be approved by 60% of voters.</p> <p>Levy – A levy consists of a voter-approved increase in the money collected annually from each property owner. The levy is based on a percentage of the value of home and privately-owned land, and only affects properties inside the city limits. Funds raised through a levy could be used for a City administered retrofit funding program. A levy must be approved by 50% of voters.</p> |
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CA passed a state law in 2004, now expired, requiring posted notification that stated: EARTHQUAKE WARNING This is an unreinforced masonry building. You may not be safe inside or near an unreinforced masonry building during an earthquake. Leases and rental agreements for Buildings subject to the law entered into after 1/1/2005 must contain the statement "This building, which you are renting or leasing, is an unreinforced masonry building. Unreinforced masonry buildings have proven to be unsafe in the event of an earthquake. Owners of unreinforced masonry buildings are required to post in a conspicuous place at the entrance of the building, the following statement: 'Earthquake Warning. This is an unreinforced masonry building. You may not be safe inside or near an unreinforced masonry building during an earthquake.'

Law requires local jurisdictions in seismic zone 4 (the zone with the highest earthquake risk) to: identify all potentially hazardous buildings; and establish a mitigation program that includes notice to Building owners. Local programs may include measures to strengthen Buildings, change use to acceptable occupancy level, demolish, tax incentives and low-cost loans for seismic rehabilitation.

Status of the Unreinforced Masonry Building Law 2006 Progress Report to the Legislature: Seismic Safety Commission: SSC 2006-04 <http://www.seismic.ca.gov/pub/CSSC%202006%20URM%20Report%20Final.pdf> **Average demolition rate is 15%**