

Memorandum

To: Advisory Committee, Community Action Plan for Seismic Safety (CAPSS)
Date: October 23, 2008
From: Laura Samant (laura.samant@gmail.com) and Tom Tobin (Ittobin@aol.com), ATC Project Managers
Subject: Soft-Story Mitigation Programs in Other Communities

Overview

The CAPSS program has been asked to identify policy options to reduce the risk of wood frame buildings with soft or weak first stories in San Francisco. As part of this process, the CAPSS team has researched the activities other California communities relating to this high-vulnerability type of building. San Francisco can learn from the successes and failures of other communities.

This memorandum describes the following mitigation programs and activities related to soft-story buildings:

| Jurisdiction | Summary of Program |
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| City of Berkeley (page 2) | Requires an engineering study; retrofit not required, but informing tenants is required |
| City of Fremont (page 6) | Requires an analysis and retrofit of buildings that do not meet the minimum standard; few buildings affected |
| City of Santa Monica (page 10) | Requires an analysis and retrofit of buildings that do not meet the minimum standard; enforced for several years, but not supported in recent years |
| City of Los Angeles (page 14) | Retrofit is not required |

In addition, activities of a number of other communities are described: Oakland, San Jose, Burbank, San Leandro, and Campbell (page 16). These communities are taking or have taken some steps towards addressing the risk of soft-story buildings, but do not have specific ordinances requiring retrofit of these buildings in place.

Please note that an earlier version of this memorandum, dated October 3, had significant errors in the description of the program in Santa Monica. This version corrects those errors.

City of Berkeley Soft Story Program

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| Jurisdiction | <p>City of Berkeley</p> <p>Building and Safety Division, Planning and Development Department</p> |
| Nature of Ordinance | |
| Ordinance | Soft Story Ordinance (Berkeley Municipal Code 19.39) |
| Date enacted | October 2005 |
| Approach | <p>Berkeley’s ordinance requires owners of buildings on the City’s soft-story inventory to conduct engineering studies to identify structural retrofit solutions and their costs, in accordance with standards defined by the city.</p> <p>A notice and order is sent to owners of buildings on the City’s Inventory of Potentially Hazardous Soft Story Buildings. The Notice & Order provides six months to challenge the inclusion on the Inventory before the Notice becomes final. Once final, owners are required to post the building with a warning sign and notify tenants within 30 days. Within two years from the Notice date, owners must file an engineer-prepared “Soft Story Engineering Evaluation” report that compares the building with designated technical standards and defines a plan to fix any weakness. The report deadline is accelerated under certain events, including when title is transferred, the building is refinanced, or work of \$75,000 or more is done. As notices become final, the ordinance requires recording Notices of Inclusion on the Inventory with the County Recorder’s Office.</p> <p>Retrofit is not required.</p> |
| Scope | Residential buildings with five or more residential units with an apparent soft, weak and open front story |
| Priorities | <p>Buildings with a wood ground floor are addressed first.</p> <p>The next phase will probably focus on high occupancy buildings with concrete podia at the ground floor.</p> |
| Fees | Berkeley requires a review fee of \$583. |

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| <p>Implementation Period</p> | <p>Owners have 6 months to contest inclusion in the soft story inventory before the notice becomes final.</p> <p>After notice becomes final, owners have 30 days to post a sign and notify tenants.</p> <p>Owners have two years to comply with the notice requirement for an analysis.</p> <p>Building owners can apply for time extensions.</p> |
| <p>Incentives</p> | <p>Once retrofitted, the owner enjoys a 15-year period during which additional requirements cannot be imposed.</p> <p>The City provides a report framework to guide report preparation and a roster of engineers who attended the City’s training session.</p> <p>Retrofitting or a favorable analysis results in the building being removed from the list of soft story buildings.</p> <p>Owners can forgo the cost of the review of the engineering report if they choose to retrofit directly.</p> |
| <p>Penalties</p> | <p>There are sanctions or fees and fines for non compliance and for the staff to bring buildings into compliance with the ordinance.</p> <p>So far, the program has relied on the voluntary compliance of owners.</p> |
| <p>Performance Objectives/ Technical Standards</p> | <p>Engineering reports compare buildings to Appendix Chapter A4 of the 2003 International Existing Building Code (A4IEBC).</p> <p>There is concern that the A4IEBC requires work beyond addressing the soft, weak and open condition. The City might waive these requirements.</p> |
| <p>Implementation</p> | |
| <p>Number of Buildings, Types, Size</p> | <p>The city’s survey identified 317 potential soft story buildings with wood frames at the ground level.</p> <p>About 140 more buildings with concrete podia were also identified as having potential soft or weak open front conditions.</p> |

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| <p>Progress</p> | <p>All wood frame buildings identified in the survey have been noticed, most between March and September 2006. Currently engineering reports have been submitted for about 130 buildings.</p> <p>As of April 2008, about 10 buildings on the building inventory were found not to have soft-story weaknesses. A further 20 buildings were removed from the inventory because they have fewer than 5 residential units.</p> <p>Currently, about 33 buildings have seismically retrofitted or have building permits to conduct retrofits.</p> <p>The Building Official will report on progress to Council in winter 2009 and will recommend an ordinance mandating retrofit of buildings not meeting Chapter A4 IEBC.</p> |
| <p>Cost</p> | <p>Engineering surveys have been in the range of \$3,000 to \$12,000 per building.</p> <p>Retrofit costs are not yet available. Staff will collect and analyze this information at some point.</p> |
| <p>Problems</p> | <p>The costs of retrofits are an allowable expense for building owners to pass through to tenants. However, most building owners may not actually be able to pass through these costs due to having increased Net Operating Income, which is used as an offset to costs under Berkeley's rent control regulations.</p> |
| <p>Background</p> | <p>Berkeley's program emerged as the result of a long process involving the city's voters, discussions with building owners and community members, and review by the many boards that advise the city's lawmaking process. Initially, the city attempted to raise funds to assist in the structural strengthening of soft story buildings through a ballot measure, but this was rejected by voters. Discussions followed to create legislation mandating owners retrofit their buildings, but this was deemed too challenging as the community's initial step. This led to the city's current approach. The city is considering a more assertive approach</p> |
| <p>Administration</p> | |
| <p>Number of staff for program, qualifications and duties</p> | <p>One staff member works on this program about half time.</p> <p>The building official uses normal procedures to check plans and inspect the work during construction.</p> |

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| Do you use consultants? | Engineering reports are reviewed by consultants: Bureau Veritas and Telesis Engineers. |
| Workload metrics | The program is tracked by the key staff member, and information is stored in the city's central database in the Code Enforcement Module. |
| Any law suits or legal opinions? | There have been no lawsuits. The City Attorney was involved during the program's development. |
| Other matters | |
| Give Advice? | |
| Web Page | www.ci.berkeley.ca.us/ContentDisplay.aspx?id=622 |
| Sources | <ul style="list-style-type: none"> • Joan MacQuarrie, Building Official, personal communication • Dan Lambert, Senior Management Analyst, personal communication • www.ci.berkeley.ca.us/ContentDisplay.aspx?id=622 |

City of Fremont Soft Story Program

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| Jurisdiction | City of Fremont Building and Safety Division, Community Development Department |
| Nature of Ordinance | |
| Ordinance | Fremont Municipal Code, Title VII (Building Regulations) Chapter 10 <i>Minimum Mandatory Earthquake Hazard Reduction Requirements and Standards for Existing Wood Frame Residential Buildings with Soft or Open-Front Walls</i> |
| Date enacted | May 1, 2007 |
| Approach | Mandatory program requiring owners of apartment buildings with soft story deficiencies to seismically retrofit. Building owners are required to complete a survey checklist to determine if the building meets minimum earthquake performance standards. If the building does not meet these standards, building owners must retrofit according to a specified timetable. |
| Scope | Covers apartment buildings with soft story deficiencies built before 1978. Condominiums and townhouses are not covered by the mandatory ordinance at this time. |
| Priorities | Apartment buildings with 10 or more units must seismically retrofit first. Apartment buildings with 10 or fewer units are also mandated to retrofit, with a longer deadline. Condominiums and townhouses have no mandates to retrofit. |
| Fees | Fees are rebated to owners once the work associated with seismic retrofits is completed successfully. |

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| <p>Implementation Period</p> | <p>Building owners have 30 days after receiving notice that they are covered by the ordinance to appeal.</p> <p>Buildings with more than 10 units must submit engineering plans within 24 months of notice and complete construction within 48 months.</p> <p>Buildings with 10 or fewer units must submit engineering plans within 36 months of notice and complete construction within 60 months.</p> <p>Building owners can apply for time extensions due to financial hardship.</p> |
| <p>Incentives</p> | <p>Plan check and building permit fees are returned for earthquake retrofits of soft story apartment buildings when the work is completed within the specified timetables.</p> |
| <p>Penalties</p> | <p>Apartment buildings not in compliance are deemed a public nuisance and could potentially be demolished.</p> |
| <p>Performance Objectives/ Technical Standards</p> | <p>The ordinance, when adopted, was based on the 2001 version of the California Building Code. Buildings are required to resist a base shear of 75-percent of the code. The goal is to reduce the collapse hazard of buildings in the event of a major earthquake.</p> <p>The mandatory program only requires analysis and strengthening of the soft-story portion of the structure, the ground floor.</p> |
| <p>Implementation</p> | |
| <p>Number of Buildings, Types, Size</p> | <p>Fremont has identified fewer than thirty complexes or owners with apparent soft story buildings, some with multiple buildings. This includes nineteen apartment complexes with soft-story deficiencies. Two of these complexes were seismically retrofitted under a previous voluntary program. Seventeen complexes, some with multiple buildings and with an estimated 726 apartment units, have yet to be retrofitted.</p> <p>All buildings have wood frame construction.</p> <p>Three condominium complexes with soft-story deficiencies have also been identified, but are not covered by the mandatory retrofit ordinance.</p> |

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| Progress | The city allows owners to appeal the identification of their buildings and inclusion in this program, however none have appealed. Three, perhaps four, owners have submitted drawings to the city for review. None are under construction as of October 1, 2008. |
| Cost | When the ordinance was enacted, city staff estimated it would cost building owners \$2,500 to \$3,500 per parking space at the ground level. A better estimate of the cost of engineering and construction might be received from design professionals working in the City. The estimated cost to the City in terms of lost permit fees was \$22,000 to \$40,000. |
| Problems | There are no particular “problems” with the program so far. Owners and their design engineers ask questions regarding scope of extent of required work. |
| Background | Fremont had a voluntary ordinance, enacted in 1999, to encourage building owners to strengthen multi-residential soft-story buildings. Owners of soft-story buildings were notified and the city adopted standards for seismic retrofits. Only two buildings, containing 96 rental units, performed seismic retrofits under this program. |
| Administration | |
| Number of staff for program, qualifications and duties | One structural engineer is responsible for monitoring the soft story program and answering questions. This assignment takes less than 5-percent of his time. Plan review is conducted using the normal process for reviewing all permit requests and is done by the engineer assigned at the time of submittal. |
| Do you use consultants? | Consultants are not used. |
| Workload metrics | |
| Any law suits or legal opinions? | None |

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| Other Matters | |
| Give Advice? | <p>Plan check engineers do not give advice on retrofiting. Plans prepared for the owner are checked against code requirements and deficiencies are noted on a list of comments. Plan checkers do not engage in design. Special inspection and construction observation by the engineer of record are required during construction.</p> <p>Retrofit solutions include steel frames, horizontal diaphragm braces to transfer loads to the back wall, and buttresses if planning department set back requirements allow this solution.</p> |
| Web site | <p>http://www.fremont.gov/CityHall/Departments/BuildingSafety.htm http://www.fremont.gov/Construction/Ordinances/default.htm</p> |
| Sources | <ul style="list-style-type: none"> • Jack Chen, City of Fremont Building Department • http://www.fremont.gov/Construction/Ordinances/default.htm |

City of Santa Monica Soft Story Program

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| Jurisdiction | <p>City of Santa Monica</p> <p>Planning and Community Development Department, Building and Safety Division</p> |
| Nature of Ordinance | |
| Ordinance | <p>Original ordinance number unknown.</p> <p>Additional Ordinance: Ordinance 1945, adding Chapter 8.72 to the City's Building Regulations, "Seismic Strengthening Provisions for Soft, Weak or Open Front Walls in Light, Wood-Framed Buildings".</p> |
| Date enacted | <p>Original ordinance passed in mid-90's after the 1994 Northridge earthquake.</p> <p>Ordinance 1945 passed in June 1999</p> |
| Approach | <p>The city requires owners of wood frame soft story buildings to seismically retrofit within a given timetable.</p> <p>The process began when the Building Officer sent a written notice to building owners that they are subject to this ordinance.</p> <p>Building owners must have their building evaluated by a licensed civil or structural engineer and submit a report to the City.</p> <p>Buildings that do not meet the required standards must seismically retrofit. No additions, alterations, or remodels are allowed until seismic retrofit has occurred. Owners can seek permits to demolish their building instead of retrofitting.</p> |
| Scope | <p>The ordinance applies to all wood-frame buildings designed to a code in effect before December 12, 1995 that have soft, weak or open front line walls as defined in the building regulations.</p> |
| Priorities | <p>Buildings used as essential facilities must retrofit first. Buildings with more occupants must retrofit before buildings with fewer occupants.</p> |
| Fees | <p>Permit fees are waived for retrofits.</p> |

| <p>Implementation Period</p> | <p>Owners must submit an engineering report within 4 months of receiving notice from the city.</p> <p>Buildings with soft story deficiencies must retrofit within the following time periods after submitting an engineering report:</p> <table border="1" data-bbox="548 382 1383 814"> <thead> <tr> <th data-bbox="548 382 763 457"><i>Type</i></th> <th data-bbox="769 382 961 457"><i>Submit Plans</i></th> <th data-bbox="967 382 1188 457"><i>Begin Construction</i></th> <th data-bbox="1195 382 1383 457"><i>Complete Construction</i></th> </tr> </thead> <tbody> <tr> <td data-bbox="548 466 763 541">essential facilities</td> <td data-bbox="769 466 961 541">60 days</td> <td data-bbox="967 466 1188 541">150 days</td> <td data-bbox="1195 466 1383 541">1 year</td> </tr> <tr> <td data-bbox="548 550 763 655">more than 100 occupants</td> <td data-bbox="769 550 961 655">180 days</td> <td data-bbox="967 550 1188 655">270 days</td> <td data-bbox="1195 550 1383 655">3 years</td> </tr> <tr> <td data-bbox="548 663 763 739">20 to 99 occupants</td> <td data-bbox="769 663 961 739">1.5 years</td> <td data-bbox="967 663 1188 739">1 year, 8 months</td> <td data-bbox="1195 663 1383 739">3 years</td> </tr> <tr> <td data-bbox="548 747 763 814">fewer than 20 occupants</td> <td data-bbox="769 747 961 814">2 years, 5 months</td> <td data-bbox="967 747 1188 814">2 years, 8 months</td> <td data-bbox="1195 747 1383 814">4 years</td> </tr> </tbody> </table> | <i>Type</i> | <i>Submit Plans</i> | <i>Begin Construction</i> | <i>Complete Construction</i> | essential facilities | 60 days | 150 days | 1 year | more than 100 occupants | 180 days | 270 days | 3 years | 20 to 99 occupants | 1.5 years | 1 year, 8 months | 3 years | fewer than 20 occupants | 2 years, 5 months | 2 years, 8 months | 4 years |
|---|---|---------------------------|------------------------------|---------------------------|------------------------------|----------------------|---------|----------|--------|-------------------------|----------|----------|---------|--------------------|-----------|------------------|---------|-------------------------|-------------------|-------------------|---------|
| <i>Type</i> | <i>Submit Plans</i> | <i>Begin Construction</i> | <i>Complete Construction</i> | | | | | | | | | | | | | | | | | | |
| essential facilities | 60 days | 150 days | 1 year | | | | | | | | | | | | | | | | | | |
| more than 100 occupants | 180 days | 270 days | 3 years | | | | | | | | | | | | | | | | | | |
| 20 to 99 occupants | 1.5 years | 1 year, 8 months | 3 years | | | | | | | | | | | | | | | | | | |
| fewer than 20 occupants | 2 years, 5 months | 2 years, 8 months | 4 years | | | | | | | | | | | | | | | | | | |
| <p>Incentives</p> | <p>Permit fees are waived for retrofits.</p> <p>Owners are not required to compensate tenants if temporary relocation is required. Tenants must be allowed to return to their units at rent-controlled rates.</p> | | | | | | | | | | | | | | | | | | | | |
| <p>Penalties</p> | <p>Information can be attached to building titles that they are potential soft-story buildings subject to this ordinance.</p> | | | | | | | | | | | | | | | | | | | | |
| <p>Performance Objectives/ Technical Standards</p> | <p>Santa Monica developed their own technical standards (Chapter 8.72 of Santa Monica Municipal Code), based on work in LA.</p> <p>The goal of these standards is to substantially improve the performance of retrofitted buildings.</p> | | | | | | | | | | | | | | | | | | | | |

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| Implementation | |
| Number of Buildings, Types, Size | <p>Approximately 2,100 buildings were identified by city staff during a field survey as potential soft story buildings. These buildings were given notices to comply with the ordinance during or prior to March 1995.</p> <p>As of May 1997:</p> <ul style="list-style-type: none"> • Over 1,000 buildings had completed seismic retrofits • More than 200 buildings had submitted engineering reports that showed they were not soft story buildings • Approximately 200 buildings had permits, current or expired, to conduct retrofits but had not received final inspection • Over 400 buildings had submitted engineering reports but had not yet requested permits for retrofits • More than 600 buildings had not responded to the city's notices <p>We were unable to locate more recent statistics for compliance with this program.</p> |
| Progress | <p>Santa Monica's program has not been enforced since the late 90's due to lack of resources and internal support by some key city staff.</p> <p>Recently, there have been staff changes within the city and it is moving forward to enforce the ordinance. However, current city staff appear to be unaware of the progress this program made a decade ago. The city has plans to hire a consultant to develop a new inventory of soft story buildings and review permits for retrofit status. Some elements of the original ordinance are likely to be altered, such as including an appeals process for building owners who believe they should not be covered by the program.</p> |
| Cost | No data on costs of seismic retrofits are available. |
| Problems | <p>Santa Monica's soft story ordinance has no real penalties for owners who do not comply.</p> <p>There may be institutional "memory loss" due to significant staff turnover. Current staff members seem unaware of the activities, reports and databases that were used to enforce this program.</p> |
| Background | This ordinance was passed quickly after the Northridge earthquake. Santa Monica experience significant damage in that event, which raised public concern about building safety. |

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| | <p>Santa Monica has required the retrofit of URMs, soft story buildings, tilt-ups, non-ductile concrete buildings, and steel frame buildings. To date, only the URM and soft-story requirements have been enforced. Other types have not yet been inventoried.</p> <p>Owners of single-family homes are encouraged, but not required, to retrofit.</p> |
| Administration | |
| Number of staff for program, qualifications and duties | <p>Santa Monica had one staff member for approximately three years who was supposed to spend significant time on this program. However, this staff member was not able to spend as much time as hoped on this program due to a sizeable increase in the overall department workload. After this staff member left, the program apparently had no staff support.</p> |
| Do you use consultants? | <p>A consultant will help the city resume this program.</p> |
| Workload metrics | |
| Any law suits or legal opinions | |
| Other Matters | |
| Give Advice? | <p>It is important to include penalties and enforcement mechanisms in an ordinance of this type.</p> |
| Web site | <ul style="list-style-type: none"> • http://www.gcode.us/codes/santamonica/ (chapter 8.72) |
| Sources | <ul style="list-style-type: none"> • Loretta Duvall, Mel Green and Associates, Torrance, CA (formerly Santa Monica Code Enforcement) • Edwin Hacopian, Santa Monica Code Enforcement • Timothy McCormick, Director of Building Services, County of Monterey (formerly Building Officer for the City of Santa Monica) |

City of Los Angeles Soft Story Program

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| Jurisdiction | City of Los Angeles, Department of Building and Safety |
| Nature of Ordinance | |
| Ordinance | Voluntary Earthquake Hazard Reduction in Existing Wood Frame Residential Buildings with Soft, Weak or Open Front Walls (Division 93, Article 1, Chapter IX of LA Municipal Code) |
| Date enacted | May 1998 |
| Approach | The city developed technical standards for building owners who wish to voluntarily seismically retrofit their buildings. |
| Scope | The standards apply to apartment buildings, condominium buildings, hotels and other “congregate residences.” It applies to wood frame buildings with an open ground floor designed to codes prior to the 1995 code. |
| Priorities | None |
| Fees | No fee reductions |
| Implementation Period | None |
| Incentives | There may have been limited low interested loans through the Housing Department, but no details are known. |
| Penalties | None |
| Performance Objectives/ Technical Standards | Their own standards are defined in the ordinance, developed with a task force of the Structural Engineers Association of Southern California (Chapter 93 of the Los Angeles Building Code). This was the first effort to define technical standards for retrofit of this type of building. |
| Implementation | |
| Number of Buildings, Types, Size | The City has no inventory of potential soft story buildings. According to the CUREE-Caltech wood frame project, there are an estimated 20,000 wood frame apartment or condominium buildings in the LA area with “tuck under” parking at the ground level. |

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| Progress | As of June 2006, 106 wood frame soft-story buildings had conducted voluntary retrofits that met the city's standard, or were in the process of doing so. |
| Cost | No data. |
| Problems | |
| Background | <p>After the 1994 Northridge earthquake, the city developed technical standards for retrofits of:</p> <ul style="list-style-type: none"> • wood frame buildings with weak cripple walls and unbolted sill plates • hillside buildings • reinforced concrete and reinforced masonry wall buildings with flexible diaphragms • reinforced concrete buildings and concrete frame buildings with masonry infills |
| Administration | |
| Number of staff for program, qualifications and duties | Retrofit plans are checked through normal procedures. |
| Do you use consultants? | |
| Workload metrics | |
| Any law suits or legal opinions | |
| Other Matters | |
| Give Advice? | |
| Web site | |
| Sources | <ul style="list-style-type: none"> • Andrew Adelman, General Manager, Department of Building and Safety, Personal communication and written materials • Victor Cuevas, staff, LA Department of Building and Safety |

Activities of Additional Communities

City of Oakland

Oakland has no ordinances requiring soft story retrofits.

The City of Oakland is currently developing an inventory of its soft story buildings. The inventory focuses on buildings with 5 or more units, from 2 to 7 stories. Some buildings with concrete podiums are included. It should be complete by the end of the year.

The Association of Bay Area Governments (ABAG) is organizing the inventory process, supported by a FEMA grant. The Structural Engineers Association of Northern California (SEAONC) and the Earthquake Engineering Research Institute (EERI-NC) are providing volunteers to assist in surveying nearly 4,000 parcels.

Source: Jeanne Perkins, consultant to ABAG

City of San Jose

San Jose has no ordinances requiring soft story retrofits.

The City completed an inventory of apartment buildings with apparent soft stories, prepared maps with locations identified, and conducted an outreach program including education and training for owners.

The city staff recommended preparation of a program to require retrofit with priority given to 460 addresses (some with multiple buildings and units) that were considered to be of poor construction and located on poor soil. The program was to be modeled after the City's program for unreinforced masonry buildings. The City would waive permit fees, provide some engineering services, and a special "opt in" district would be created for owners wishing to borrow funds. The URM program created a special district in about 1992 when interest rates were high and money tight. However, the economy improved and owners preferred to rely on traditional sources for funds and the potential use of the district was abandoned in about 1995.

The City Attorney opposed releasing the inventory information and moving ahead with a program, and the City Manager was concerned with the political implications of a program. The effort was dropped, but the City developed some helpful information for apartment owners and others.

Between 1998 and 2000, the City of San Jose created several publications about soft story buildings:

- The Apartment Owner's Guide to Seismic Safety: A Handbook for Owners to Identify Seismic Hazards in Low Rise Apartment Buildings was prepared by Professor Steve Vukazich, SJSU;

- Practical Solutions for Improving the Seismic Performance of Buildings with Tuckunder Parking, a publication of pre-engineered typical solutions was prepared by Rutherford and Chekene;
- Two other technical reports analyzing costs and technical approaches to retrofit soft story buildings;

Sources:

- <http://www.sjsu.edu/cdm/projects/inventory.html>
- quake.abag.ca.gov/mitigation/PR-Soft-Story-11-17.pdf
- <http://www.sanjoseca.gov/emergencyServices/brochures.asp>
- Professor Francis Edwards, SJSU, former director of Emergency Services for San Jose.

City of Burbank

Burbank has no ordinances requiring soft story retrofits.

Burbank held public hearing in Spring 2008 on a concept proposal to address the risk of soft story buildings. These proposals were put on hold due to stiff opposition.

City of San Leandro

San Leandro has no ordinances requiring soft story retrofits.

The City's Building Department has conducted a preliminary "draft" inventory of about 330 multi-family residential, commercial/office, and mixed-use buildings containing approximately 4,000 units. All buildings with two or more stories were surveyed. City staff met with the Apartment Owners Association and the Chamber of Commerce while conducting this inventory. City staff are now working to further validate which buildings have soft story conditions by conducting an in-house survey for each building based on the ATC-21 Rapid Visual Screening worksheet. City Council will be approached soon to discuss the appropriate policy for reducing risk in these buildings

Sources:

- William Shock, Chief Building Official
- http://www.quake06.org/quake06/best_practices/IMSSB.html

City of Campbell

Campbell has no ordinances requiring soft-story retrofits.

The City worked with a consultant to develop an inventory of soft story buildings in the city. All building owners were mailed a copy of San Jose's "The Apartment Owner's Guide to Seismic Safety".

Consultants developed the inventory of soft story buildings in the City of Campbell (Disaster Mitigation Collaborative, a non-profit based at San Jose State).

Source: <http://www.sjsu.edu/cdm/projects/inventory.html>