

From: Housing and Community Development Commission 10 <HCDC10@sanjoseca.gov>

Sent: Friday, March 22, 2024 4:17 PM

Subject: Fw: CED 3/25 Meeting Soft Story Seismic Retrofit - HCDC Ad Hoc Committee Finds Faulty Assumptions & Recommends Preservation Approach

Dear CED Commissioners,

Attached is the HCDC Committee report and presentation I made at the November HCDC meeting on a Soft Story Retrofit Mandate after considerable research. They highlight the major pitfalls of the proposed mandate and recommend a more effective methodology to preserve affordable housing and target those buildings most at risk. Finding highlights include:

Mandate based on Faulty Assumptions

San Jose's Natural Hazard Zones are not addressed in the mandate. The most damage caused by an earthquake are in soft story buildings also in liquefaction or landslide zones. Look at the data in the attached report and presentation.

- The soft story buildings that were damaged in the 2 big earthquakes were ALSO in a liquefaction or landslide zone.
- This mandate is based on FUD & Scary Media Highlights – Rather than real data.
- Note: HCDC was not allowed to vote on this at either meeting even though I attempted to make a motion both times.

Targets Too Many of the Wrong Properties based on FALSE CLAIM

After the attached findings were presented, the Consultant found a map from the Department of Conservation and the City presentation falsely claimed that all of San Jose is in a liquefaction zone. A copy of the slide from the City's presentation claiming the "NEW" map puts all of San Jose in a liquefaction zone.

- This is not the map used by the Natural Hazard Disclosure companies for real estate sales, building or insurance purposes.
- According to my Title Rep, "Identifying liquefaction zone is mandated by the State of California. Only certain areas in San Jose are in liquefaction zones."

Puts Affordable Housing at Risk

Focusing on buildings not in the liquefaction and landslide zones puts too many affordable units at risk of being removed from the market and wastes funds that could be used to focus on protecting those buildings most at risk. Many concerns about the impact on affordable housing were mentioned at both HCDC meetings where the City's Soft Story Mandate was presented. Again, I was not able to make a motion. Here is feedback received at the HCDC meetings:

- There are too many expensive government regulations (Seismic, Electrification, Balcony) putting undue burden on these affordable units. Most mom and pop housing providers can not afford another mandate.
- Most can not get financing to pay for this because they do not qualify for a more expensive loan even though they have equity.
- What's going to happen to these units and our renters when we are unable to comply?
- This policy will ensure only major investors and nonprofits can own these buildings. They charge higher rents.

This mandate as written will do more harm than good. It is another example of the City claiming to "preserve housing" but creating regulations that will have the opposite impact. The City can not vote for this proposed mandate and then claim it won't eliminate the small mom and pop housing providers . . who provide THE MOST AFFORDABLE housing in San Jose.

Recommendation

A thoughtful phased approach designed to both protect people most at risk and preserve affordable housing also most at risk of being lost is included in the attached report on pages 6 & 7.

Please read the attached documents to make an informed decision. Among other things, it recommends starting with a small group of larger buildings also in real liquefaction or landslide zones according to the Natural Hazards reports based on the GIS.

Regards,

Roberta Moore

This is my personal opinion and is not meant to reflect the opinion of or speak for any person, commission or organization to which I belong.

HCDC Ad Hoc Seismic Retrofit Committee
Preserve Affordable Housing Short Term and Long Term
Overview & Policy Framework Recommendation, November 1, 2023

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Ad Hoc Committee

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Jen Beehler, Vice Chair
HCDC D6 Representative
Roma Dawson
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Barry Del Buono
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Overview

FEMA and the City of San Jose want to minimize their risk and their cost from a catastrophic earthquake. A seismic retrofit program must be mandated to receive FEMA funds. Significant resource limitations (engineers, materials, and cost) will hinder smooth roll-out of a program that targets all buildings at once.

Every building is vulnerable to an earthquake in California including steel buildings. The buildings to be considered most at risk of significant damage during a catastrophic earthquake are any wood buildings built on a hillside, in a liquefaction zone, and/or with a soft story, as well as single-family homes built with a cripple wall.

Tens of thousands of buildings were damaged during the 1994 Northridge earthquake including buildings built with steel that cracked. Steel is not a guarantee of protection. Only 200 of these buildings were soft story buildings. Almost half of the buildings lost during the 1989 Loma Prieta earthquake were soft story buildings. San Francisco's buildings sustained more soft story damage than other cities likely because these buildings were also built on a hill, which is another major factor for damage. While the 1989 Loma Prieta earthquake killed 63 people and caused \$6 billion in property damage, there were no multi-unit soft story buildings reported as damaged. In San Jose, the housing units today either withstood this significant earthquake activity or have already been rebuilt with the new standards.

Purpose

The purpose of this recommendation is to balance protection of residents and property in the event of a catastrophic earthquake with preservation of affordable housing stock today and tomorrow given the current barriers to retrofitting.

Strategy

A seismic retrofit mandate will have the most success with a strategic phased roll-out targeting the most at risk buildings first and applying FEMA funds and City assistance to these buildings. A policy framework for this strategic roll-out is recommended herein.

Soft Story

The City has defined a soft story building as any 3+ unit wood-frame building built before 1990. The accurate definition of a soft story building is a building that has a large opening on the first floor, such as a carport, so it is unable to carry the weight of the stories above the carport during a catastrophic event. This applies to single family homes as well as multi-unit homes.

Risk of Earthquakes

Earthquakes, even significant ones, are a regular occurrence in California. There have been 54 significant earthquakes in California since the 1906 earthquake. In the past 112 years, given the number of deaths and damage, 7 of these (6%) may warrant a seismic retrofit ordinance and

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only 3 achieved public notoriety. See Appendix 1. For example, there were two significant earthquakes in Alum Rock since 2022 without damage to property or life. One was a 5.2 in magnitude. There were also significant foreshocks along the San Andreas fault in 1988 and 1989 that occurred without public notice.

The risk varies due to several factors especially if a building is on bedrock or clay. Some cities, such as Mill Valley, made the effort to identify the degree of risk in establishing their retrofit policies. Refer to Appendix 2 for more information.

San Jose is on the North American Plate of the San Andreas Fault. 31%+ chance of an earthquake magnitude of 6.7+Some areas are more at risk for severe damage than others. According to ABAG, San Jose is most impacted by the San Andreas fault, liquefaction zones, and hillsides. Refer to Appendix 3 for ABAG's list of type of buildings at risk.



Housing Units at Risk

ABAG estimates there are 2,630 soft story (multi-unit) buildings in Santa Clara County. A subset of these are located in San Jose.

“Based on the collected damage information from the 1994 [Northridge Earthquake](#), the Associated Bay Area Governments (ABAG) [estimates](#) San Jose can expect 30,000 living units damaged or vacated.”*

ABAG's estimate means 9.5% of San Jose's 313,944 households are at risk and most of these buildings are single family homes. Less than ½ of 1% of San Jose's units are in a soft story multi-unit building. The reality is all structures, even those built with steel, are at risk.

ARO Units Lost

While most housing units at risk are single family homes, this retrofit mandate only targets Apartment Rent Ordinance multi-unit buildings (ARO) which is a small percentage of San Jose's households. ARO owners do not have the funds to pay the \$20,000+ per unit for these retrofits. Singling out these properties puts San Jose's most affordable units at risk of being taken off the market and converted to condominiums. ARO units are the last of San Jose's affordable housing stock where rents are lower than market rents. Keeping these units on the market may be more important than retrofitting them.

Barriers to Retrofitting

Skyrocketing Inflation, cost of construction, and rising interest rates have increased retrofit costs significantly since San Francisco implemented their policy making. Today, the actual costs of retrofitting a building are unpredictable. San Francisco's owners were able to refinance the funds and keep their monthly costs the same. San Jose owners will not be able to do this.

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For example, the cost per unit in SF averaged \$12,000 and the interest rates were 3%. Today, these costs are estimated at \$20,000 per unit and interest rates are closer to 8% which will more than triple the cost to retrofit.

Resources are constrained and costs to all parties are high. Following are the four most important reasons for a strategic phased approach should San Jose choose to implement a seismic retrofit mandate:

1. Most ARO mom and pop providers (who are the primary target of this proposed mandate) will not be able to afford this price, nor will they be able to get loans to finance it. Therefore, more of these affordable housing units will become uninhabitable.
2. Resource availability is constrained. There are:
 - Lack of engineers, contractors, and other trades people to perform the retrofits.
 - Limited city resources for processing retrofit compliance applications.
 - Shortages of raw materials (steel) world-wide for completing the job.
3. The cost to renters and owners is high. Following are estimates given current information received:
 - Cost of retrofit to owner: \$20,000+ per unit. (Refer to Appendix 4 for another cost estimate.)
 - Cost of loan per unit: \$155 per month
 - Interest rates: 8%+
 - Cost to get an exemption waiver: \$15,000+ per building.
 - Cost to renter through current Capital-improvement Pass-through: \$166.67+ per month.
4. The City, County, and State continue to add one set of burdens after another on ARO Housing Providers, as follows:
 - Eviction Moratorium: Lost Rent and Administrative Burden
 - Electrification Mandate: \$250,000+ per building
 - Seismic Retrofit Mandate: \$20,000+ per unit
 - Balcony and Staircase Retrofit Mandate
 - Rent Stabilization Program: Administrative Burden and Fees

Conclusion / Recommendation

A soft story retrofit program would provide benefit to FEMA, the City of San Jose, and a select number of people in the event of a catastrophic earthquake. The cost of this program will be in the hundreds of millions of dollars if not closer to the \$1.3 Billion already spent in Los Angeles.

Soft story multi-unit housing represents the smallest fraction of those buildings at risk during a catastrophic earthquake. It does not address the 99.58% of houses at risk. Targeting a small group of property owners puts an unfair burden on those providing affordable housing to San Jose's residents while protecting very few people.

Every mandate that goes into place costs housing providers time and money without the ability to recover these costs. Many ARO owners have not recovered from the Eviction Moratorium, yet more "mandates" are on the near horizon. These mandates are being implemented without regard to survival of these crucial allies in providing affordable housing. Bottom line:

- Most ARO owners will not be able to refinance or get loans to do the retrofit. Therefore, most buildings targeted will not be able to comply.
- The stigma of a building being identified/tagged as a soft story decreases the property value and hinders the sale of such buildings. For example, sales of multi-unit buildings with possible soft story structures have come to a halt in San Jose just with the threat of this mandate. Soft story multi-family is now on a check list of what not to buy in San Jose.

How much can the city put on one type of business and expect it to survive? The City should not rely on a broad sweeping mandate that requires property owners to pay for an expensive waiver to be removed. Instead, a strategic approach targeting the most at risk buildings, utilizing FEMA funding, city assistance, and capital pass through will be crucial to preserving the limited affordable housing stock in San Jose. If implemented, the assessment process and phased approach as outlined in the policy framework is most important to success. This won't take 25 years, but it is unrealistic to require that compliance on all units will be completed in 10 years.

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Policy Framework

The purpose of this policy framework recommendation is to begin to protect properties that most need it, while preserving as much of the affordable housing stock as possible should City Council decide to proceed with this mandate.

Strategy

Here is a strategic phased approach to prioritize the buildings by risk factors to preserve affordable housing stock in the short term and in the long term:

Phase 1

1. Identify all qualifying “soft story” structures per state law.
2. Assess all qualifying “soft story” structures for vulnerability utilizing FEMA funding.
3. Assign a designation A, B, or C:
 - A are most vulnerable structures (refer to criteria for most vulnerable structures in Table 1: Buildings to Target).
 - B structures have some vulnerability.
 - C structures have little or no vulnerability.
4. Determine City Policies (refer to programs in Table 2: City Policies)

Phase 2

1. Conduct a risk / benefit analysis for the target buildings selected.
2. Establish costs of retrofitting per unit.
3. Identify funding available for Category “A” structures.
4. Identify sufficient qualified contractors, architects, engineers, and raw materials exist to complete all Category “A” structures.
5. Identify the timeframe in which all Category “A” structures must be retrofitted.
6. Roll-out program.

Phase 3

1. Evaluate impact on consequences of retrofit mandate:
 - Rent Increases
 - Loss of Units
 - Renter Displacement
 - Housing Provider and Renter Complaints
2. Conduct a risk /benefit analysis based on the true impact. (Determine how many units “protected” versus how many units were removed from the market.) Weigh the risks against the benefits of proceeding and make a go-no go decision.
3. If proceed, with retrofit mandate, then implement Phase 2, steps 2 through 6 with Category B units.

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Table 1: Buildings to Target

Some areas are more at risk for severe damage. There are specific criteria for identifying the most at risk buildings. All criteria must be met to for retrofit to be required, as follows:

Criteria	Most Vulnerable Structures for Category A
Landslide, and Liquefaction Risk	Conduct an evaluation of this like Mill Valley. Target buildings on hills & liquefaction zones.
Years Built -Pre 1970 had higher building standards and better-quality materials. -1980 Soft-story laws advised and building practices improved. -1990 Soft-story Laws enacted.	Category A: Target buildings built 1970 to 1979) (Phase 3: Category B: Target larger multi-unit buildings built 1950 to 1969 when soft story buildings were built. After completion and evaluation of Category A in Phase 2.)
Soft story over carport	Target multi-unit buildings with a carport under the living space. (Do not expand to wood construction with cripple walls as most properties needing retrofitting would be single-family homes.)
Number of Stories and Configuration (Hardest to escape)	Target multi-unit buildings with 2+ stories that do not have direct egress from the unit, i.e., when unit entry is on the 2 nd floor +.
Number of Units	Category A: 12+ Units (Phase 3: Category B: 5+ Units. After completion and evaluation of Category A in Phase 2.)
Type of Structure	Target buildings built with wood construction. Steel construction is already reinforced.

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Table 2: City Policies

San Jose's Building Department expects to get recoup their costs of implementation. Equity would dictate that the Housing Providers get to do the same. The city needs to do its part to contribute to this program so as many buildings as possible are retrofitted. This diagram includes are what other cities, including Oakland, San Francisco, Fremont, and Alameda offered. We Recommend San Jose adopt the following:

Program	Recommendation From other City's Programs
Funding Available per Unit from City and FEMA	TBD
Permit Fee Waivers	Waive 5% of permit fees from total cost of retrofitting to owners who comply with the ordinance within the given timeline.
Capital Improvement Pass Through	Streamline the pass-through application. Allow 5% increase over 10 years. Do not allow renter to block this capital pass through. Any grants or reimbursements owner receives for project will be deducted from the actual cost of project when calculating pass-through.
Permitting Process	Streamline permit process including: <ul style="list-style-type: none"> • Give official approval without requiring plans or calculations prepared by an architect or engineer for 2 story buildings. • Expedite approval. • Do not require the owner to submit plans.
Pre-existing Conditions	Waive mandate to upgrade of the plumbing, mechanical, electrical and fire life/safety system unless they constitute a material hazard to life or property.
Tiered Approach Considering adding years for completion for the smaller buildings and to allow for resource availability.	For each Category (A, B, C): Tier 1: Give up to 4 Years for buildings with more than 20 units. Tier 2: Give up to 6 Years for buildings with fewer than 20 units.
Post Warning	Earthquake warning. This is a soft-story building. Occupants and visitors may not be safe inside or near this building during an earthquake.

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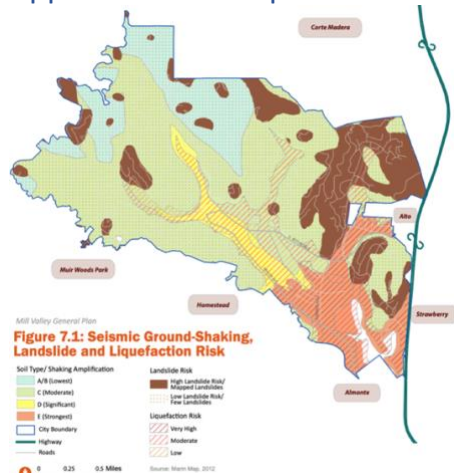
Appendix

Appendix 1: Catastrophic Earthquakes

Date	Magnitude	Area	Loss of Life and Property
1906, April 18	7.8	Great San Francisco Earthquake (and Fire)	3,000 dead; \$524 million in property damage; includes damage from fire
1971, February 9	6.6	San Fernando	65 dead; more than 2,000 injured; \$505 million in losses
1989, October 17	6.9	Loma Prieta	63 dead; 3,737 injured; \$6 billion in property damage
1992, April 25	7.2	Cape Mendocino	356 injured; \$48.3 million in property damage. Followed the next day by two aftershocks of magnitude 6.6 and 6.5
1992, June 28	7.3	Landers & Bear	1 dead; 402 injured; \$91.1 million in property damage
1994, January 17	6.7	Northridge	57 dead; more than 9,000 injured; about \$40 billion in property damage
2019, July 5	7.1	Ridgecrest	1 dead; estimate of economic losses \$5.3 billion. Preceded by M6.4 foreshock on July 4.

Source: <https://www.conservation.ca.gov/cgs/earthquakes/big>

Appendix 2: Earthquake Risk Mill Valley



Source: <https://www.cityofmillvalley.org/DocumentCenter/View/3345/Soft-Story-Mitigation-Program-Presentation-By-David-Bonowitz-SE?bidId=>

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Appendix 3: Fragile Housing Types

TABLE 2 Commonly-found Fragile Housing Types in the Bay Area

Fragile Housing Type	Definition	Notes
Hillside	Located in a “zone of required investigation” for earthquake-induced landslide.	Hillside homes may also have structural damage due to ground shaking
Single family cripple wall	Contains a crawl space and/or stairs leading up to the front door.	Commonly found in bedroom communities, rare in city centers and dense suburbs. Common in older, more established regions such as San Francisco and Alameda counties.
Single family house over garage	Garage with living space above it that lacks interior walls and may be unable to support the living space above it.	Commonly found in dense pre-1950's suburbs like San Francisco, or post 1950's suburbs with attached multicar garages. Highly prevalent in more recently urbanized areas such as Santa Clara and Contra Costa counties.
Unreinforced masonry	Masonry buildings that lack any structural support aside from mortar.	1% of total regional housing stock, most significant in San Francisco and Alameda counties. Mandated to be inventoried by state law.
Multi-family cripple wall	Contains a crawl space and/or stairs leading up to the front door.	Commonly found in pre-1920's neighborhoods.
Multi-family soft story	Contains large openings on the first floor, typically for parking or commercial space, with residential units on the upper floors.	Pre-1950: mixed or high density suburban neighborhoods. Significant in older cities – over 10% in San Francisco. Post-1950: Fairly prevalent, especially in San Mateo County. Also found in large subdivision developments (Fremont, Hayward).
Multi-family non-ductile concrete	Concrete structures lacking steel reinforcement to add ductility, or the ability to bend without breaking.	Commonly found in high-density suburban neighborhoods.

Source: https://abag.ca.gov/sites/default/files/soft_story_report_web_version_v2.pdf

Appendix 4: Retrofit Cost Estimate

Here is another estimate of the potential cost from 2022 when prices were lower:

Due to variations in building size and conditions, there is a wide range of potential costs. New steel and foundation elements will drive costs higher. Including design and construction, costs may be:

- Between \$35,000 and \$70,000 for a 3-unit or 4-unit building
- Between \$40,000 and \$130,000 for a larger building.

Source: David Bonowitz, S.E., based on Berkeley and San Francisco mandatory programs. Values are in 2022 dollars and do not include any costs for geohazard mitigation, temporary tenant relocation, or tenant compensation for loss of housing services.

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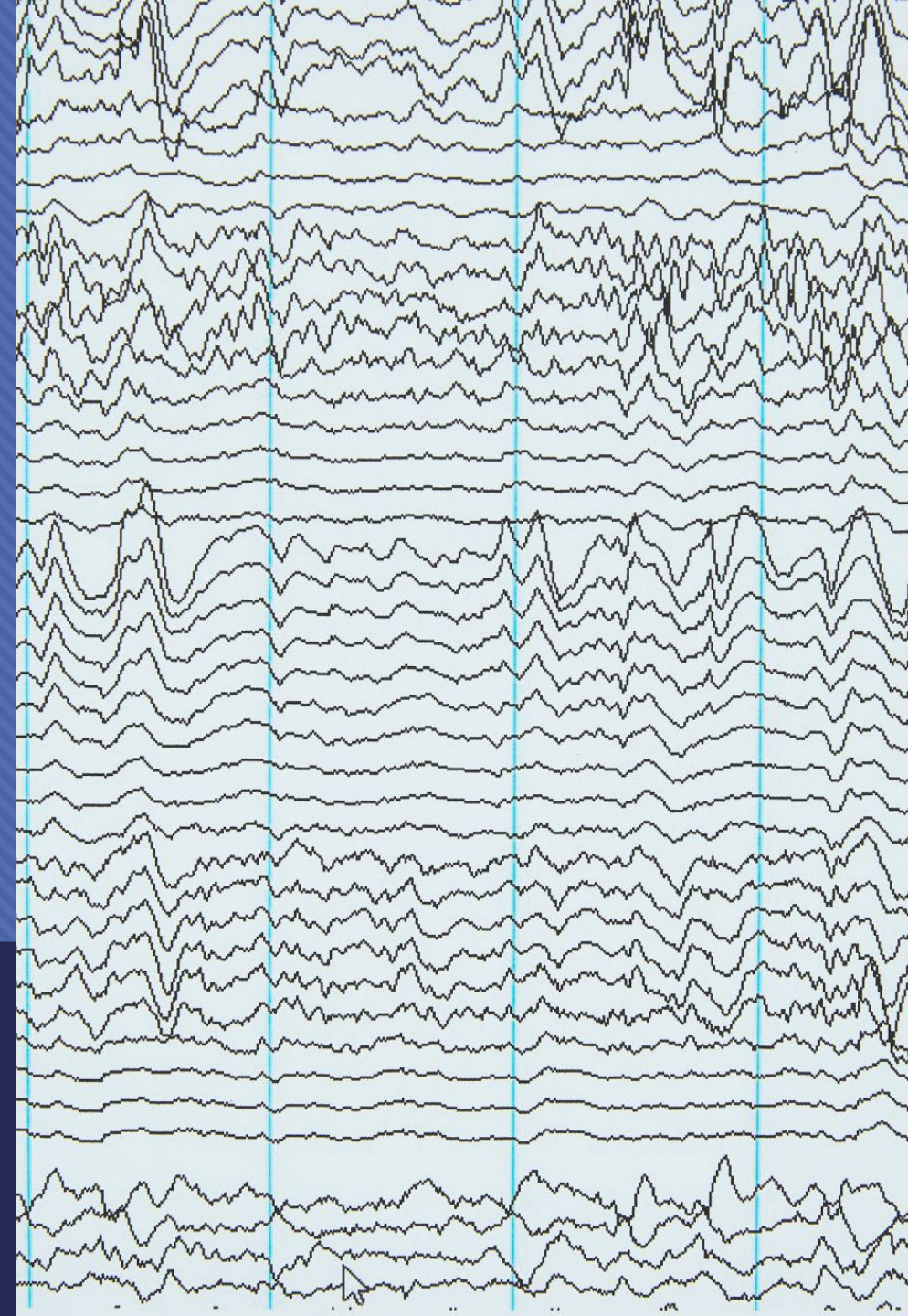
Additional Sources of Information

- Oakland, San Francisco, Fremont, Mill Valley, and Alameda's Seismic Retrofit Program
- https://upload.wikimedia.org/wikipedia/commons/9/9e/20200202193400%21Shake_Map_Northridge_1994.jpg
- <https://www.earthquakeauthority.com/California-Earthquake-Risk/California-Earthquake-History-Timeline#CAEarthquake5>
- <https://www.google.com/search?client=safari&rls=en&q=number+of+housing+units+in+san+jose&ie=UTF-8&oe=UTF-8>
- *<https://www.earthquakeauthority.com/Blog/2020/Earthquake-Risk-in-San-Jose#:~:text=San%20Jose%20earthquake%20risk%20is,%2C%20Calaveras%2C%20and%20San%20Andreas.>
- <https://www.conservation.ca.gov/cgs/earthquakes/big>
- <https://abag.ca.gov/our-work/resilience/data-research/earthquake#:~:text=Earthquake%3A%20Risks%20%26%20Resources&text=Currently%2C%20there%20is%20a%2072,related%20risks%20in%20this%20region>
- <https://www.latimes.com/california/story/2022-10-20/l-a-hits-1-billion-earthquake-milestone-8-000-buildings-retrofitted#:~:text=Kehl%20Tonga%20of%20Cal%2DQuake,story%20apartment%20building%20in%20Hollywood.&text=In%20the%201994%20Northridge%20earthquake,in%20which%2016%20people%20died.>
- https://abag.ca.gov/sites/default/files/soft_story_report_web_version_v2.pdf
- <https://la.curbed.com/2018/1/17/16871368/earthquake-apartments-safe-northridge>
- <https://www.sanjoseca.gov/your-government/departments-offices/planning-building-code-enforcement/building-division/soft-story-retrofit>
- <https://www.sanjoseca.gov/your-government/departments-offices/planning-building-code-enforcement/building-division/soft-story-retrofit/soft-story-ordinance-retrofit-program-faq>

Seismic Retrofit Overview & Policy Framework Report

Prepared by Commissioner Moore
D10 & Housing Provider Representative

For HCDC, November 9, 2023



Ad Hoc Committee

HCDC AD Hoc Committee

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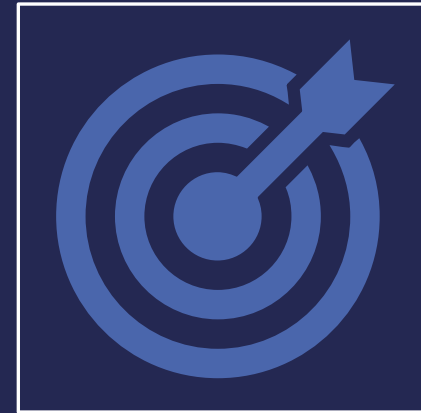
Process

- 9/18 Ad Hoc Committee held first meeting to create purpose, strategy, and next steps. Commissioners Moore, Dawson, Beehler, Del Buono, and Staff Rachel VanderVeen attended.
- 10/2 Ad Hoc Committee meeting held to review information gathered. Commissioners Moore, Dawson, Beehler, Del Buono, and Staff Rachel VanderVeen attended. Lisa Joyner (City Building Department) and Anil Babbar (CAA) presented.
- 10/23 Ad Hoc Committee meeting held to discuss report and policy framework. Commissioners Moore and Staff Rachel VanderVeen attended.
- 10/25 Commissioner Moore wrote draft report and e-mailed to Ad Hoc Committee for feedback. No feedback received.
- 10/30. Ad Hoc Committee meeting held to discuss feedback on report and policy framework. Commissioner Moore and Staff Rachel VanderVeen attended.
- 10/30 Commissioner Moore sent revised draft report with changes requested to committee for feedback. No feedback received.
- 10/31 Staff Rachel VanderVeen sent final report to all Commissioners.
- 11/6 Ad Hoc Committee meeting held to review presentation Commissioner Moore created. Commissioners Moore and Dawson and Staff Rachel VanderVeen attended.
- 11/6 Commissioner Moore e-mailed revised presentation with changes requested to Ad Hoc Committee and Staff Rachel VanderVeen for distribution to HCDC.

Overview



PURPOSE



STRATEGY

Living Units Identified at Risk

AT RISK

- Hillside
- Single family cripple wall
- Single family house over garage
- Multi-family soft story

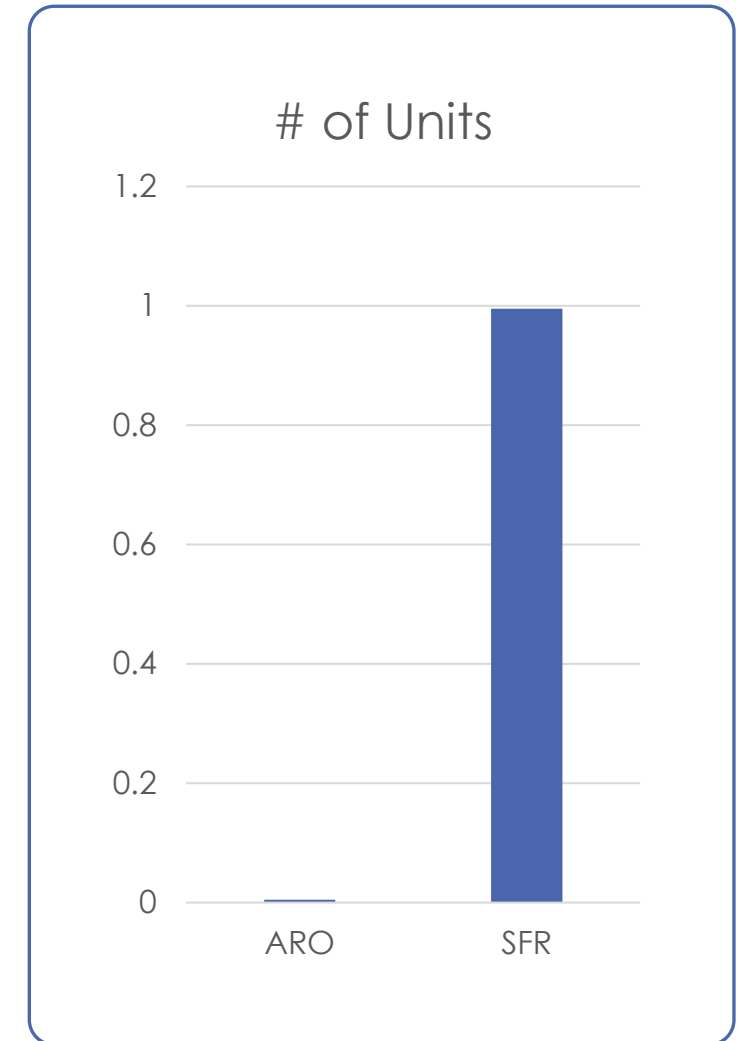
PROPOSED

- 30,000 Living Units in San Jose = 9.5%
- 2,630 Soft Story Santa Clara County.

ANALYSIS

- <1% of San Jose's Living Units ARO Multi-family Soft Story. (Source: ABAG, Census, ARO Study)

Source: ABAG



Every Structure Vulnerable



1989 Loma Prieta

63 Deaths

\$6 Million in Property Damage including Roads, Bridges, Steel Structures.

Most Damaged where in San Francisco on Hillside and in Marina District: Landfill and Liquefaction Zones.



1994 Northridge

57 Deaths

\$15.3 Billion in Property damage including Tens of Thousands Buildings and Steel Structures.

200 Soft Story.

25 Evaluated for Structural Damage. Likely in Landfill and Liquefaction Zones.

City-level NHD Determinations	IN	NOT IN
Fault		X
Landslide	X	
Redevelopment Area	X	
Special Geologic Hazard Study Area		X

County-level NHD Determinations	IN	NOT IN
Fault		X
Landslide		X
Liquefaction	X	
Compressible Soils		X
Dike Failure		X

Barriers/Challenges

Cost

- Affordability: \$20k+ per unit
- Inflation & Interest Rates: 8%+
- Cost of Loan: \$155 per Unit
- Cost to Renter: \$167 per Unit
- Lack of Financing: Small Housing Providers

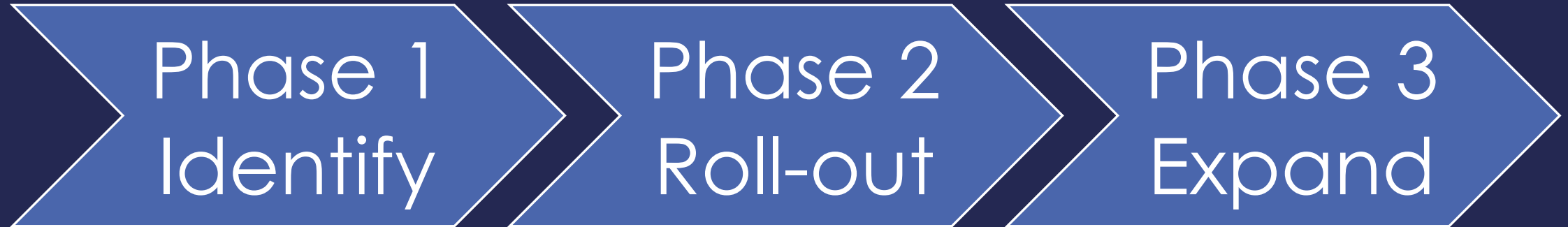
Materials & People

- Shortages of Steel
- Lack of Engineers, Architects, Contractors, etc.
- Limited City Resources for Processing Permits

Burden ARO Providers

- Eviction Moratorium: Lost Rent and Administrative Burden
- Electrification Mandate: \$250,000+ per building
- Seismic Retrofit Mandate: \$20,000+ per unit
- Balcony and Staircase Retrofit Mandate
- Rent Stabilization Program: Administrative Burden and Fees

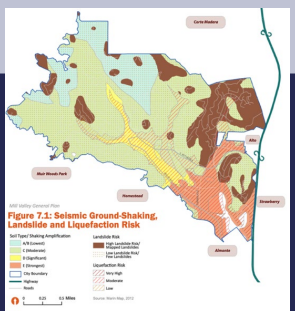
Policy Framework



Buildings Target

Hazard Zones

- Compressible Soils, Fault, Landslide, Liquefaction



Source: City of Mill Valley

Units

- Phase 2: 12+
- Phase 3: 5+

Age

- Phase 2: 1970-'79
- Phase 3: 1950-'69

How Built

- Soft Story over Carport or Garage, Wood Construction

County-level NHD Determinations	IN	NOT IN
Compressible Soils		X
Dike Failure		X
Fault		X
Landslide		X
Liquefaction		X

Source: Natural Hazards Disclosure

City Incentives

Permit Fee Waivers
(5%)

100% Capital
Improvement Pass
Through pre-
Approved

Streamline Permit
Process

Waive Pre-existing
Conditions

- Tiered Approach:
- 20+ Units = 4 Years
 - Less than 20 Units = 6 Years

Post Earthquake
Warning

Risk/Benefit Assessment

CATASTROPHIC EARTHQUAKE

- RISKS
 - Loss of Property & Life
- BENEFICIARIES
 - Government: FEMA & City
 - Owners & Residents: <1%

MANDATE RISKS

- INVESTMENT: Hundreds of millions to \$1.3 Billion Los Angeles.
- LOST UNITS: Affordable habitable units become uninhabitable or converted to condo because can't be retrofitted or sold.

Commission Discussion



Mandate



Phased
Approach



Buildings to
Target



City
Incentives

New Sources of Information

Area of San Francisco that suffered the most damage was the Marina district where four buildings were destroyed by fire and several others collapsed, many of which were apartment buildings common in the area. (Karl 12) To understand why this was the case a brief history of the Marina district is required.

- [https://ivypanada.com/essays/analysis-of-damage-to-apartment-buildings-in-the-1989-loma-prieta-earthquake/#:~:text=\(Karl%2012\)%20This%20was%20the,destroyed%20and%203%2C530%20businesses%20damaged.](https://ivypanada.com/essays/analysis-of-damage-to-apartment-buildings-in-the-1989-loma-prieta-earthquake/#:~:text=(Karl%2012)%20This%20was%20the,destroyed%20and%203%2C530%20businesses%20damaged.)

Major property damage in San Francisco's Marina District 60 mi (97 km) from the epicenter resulted from liquefaction of soil used to create waterfront land. Other effects included sand volcanoes, landslides and ground ruptures. Some 12,000 homes and 2,600 businesses were damaged Marina 70 buildings.

- https://en.wikipedia.org/wiki/1989_Loma_Prieta_earthquake#:~:text=Major%20property%20damage%20in%20San,and%202%2C600%20businesses%20were%20damaged

The term "soft story" as used throughout this report refers specifically to older, wood-frame multi-story buildings with an especially weak, flexible, or otherwise vulnerable ground story. Often (but not always), the soft story deficiency is indicated by large openings in the ground story walls, typically due to garage doors, open parking stalls, or large storefront windows. These buildings, built before current building codes, have ground stories that have a tendency to collapse when shaken hard enough.

- https://abag.ca.gov/sites/default/files/soft_story_report_web_version_v2.pdf

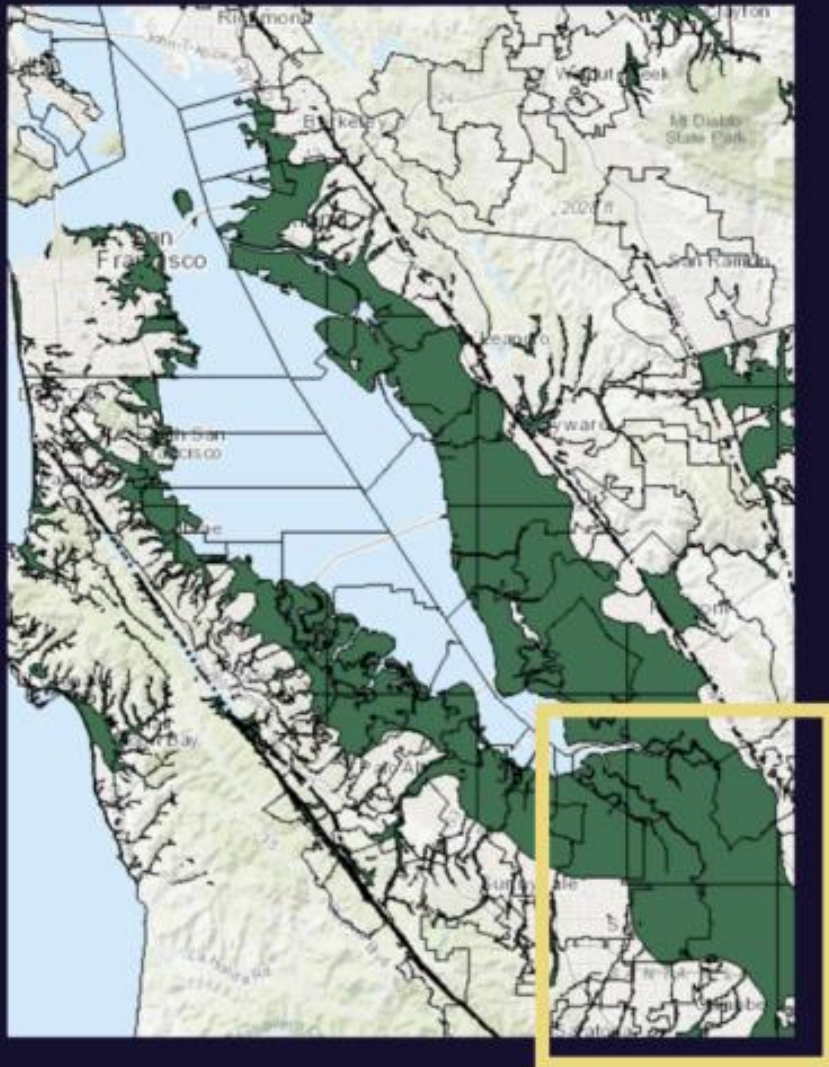
The Seismic Hazards Mapping Act (SHMA) of 1990 (Public Resources Code, Chapter 7.8, Section 2690-2699.6) directs the Department of Conservation, California Geological Survey to identify and map areas prone to earthquake hazards of liquefaction, earthquake-induced landslides and amplified ground shaking. The purpose of the SHMA is to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating these seismic hazards. The SHMA was passed by the legislature following the 1989 Loma Prieta earthquake.

- <https://www.conservation.ca.gov/cgs/sh/seismic-hazard-zones#:~:text=The%20easiest%20way%20is%20to,your%20city%20or%20county%20office.>

Other:

- <https://www.bloomberg.com/news/articles/2023-05-25/apartment-landlords-bleeding-cash-imperil-47-billion-of-loans#xj4y7vzkg>
- <https://bayarearetrofit.com/wp-content/uploads/ABAG-Shaken-Awake.pdf>
- [City of San Jose: Housing Provider Meetings, Real Estate Agents, Housing Providers, SCCAOR, CAA](#)

Liquefiable soil



Source: <https://maps.conservation.ca.gov/cgs/DataViewer/index.html>