

## CAPSS Workshop Summary

February 10, 2010  
Room 305 City Hall  
San Francisco, CA  
10:00 AM to 2:15 PM

### Introduction

Laurence Kornfield welcomed participants, described the CAPSS project and the objectives of the workshop. He said that the Department of Building Inspection looked to the advisory committee for advice and that DBI would recommend policy interventions to the Mayor and Supervisors. DBI does not make policy. Participants introduced themselves and their affiliation. A list of attendees is attached.

Mary Lou Zoback described the role of the Advisory Committee. Tom Tobin described the status of the project and schedule for delivery recommendations. He described how earthquake damage scenarios, while subject to uncertainty, provided insight into the type and extent of damage, comparisons of damage to neighborhoods, building uses and building types.

### Loss Estimates

Laura Samant described the key results of the CAPSS lost estimation study. Her PowerPoint presentation is posted on the CAPSS website ([www.sfcapss.org](http://www.sfcapss.org)). There were comments from the floor. One speaker said that insurance was an issue affecting the pace of recovery. Settling insurance claims is a long and contentious process often centering around which repairs are covered by the policy. Another inquired about the state law that bans local government control of rents in new apartment buildings. The law is known as the Costa-Hawkins Rental Housing Act of 1995 (California Civil Code Section 1954.5 et seq.). Buildings that are damaged beyond repair need not be replaced and when replaced need not be rental apartments, and if they are apartments, the rental rates are not controlled.

Private schools were discussed as a major concern. Approximately 30 percent of San Francisco school children attend nearly 100 private schools in the City. These buildings are not subject to the Field Act and too many buildings are potential collapse hazard buildings.

One person asked for clarification regarding unreinforced masonry buildings and expected losses. It was pointed out that a great degree of loss and high rate of casualties are expected in the few that are not yet retrofitted.

Data behind estimates of fire ignitions and their cause was questioned. The data on ignitions statewide are few and might not be representative of ignition sources or ignition rates in San Francisco. It was mentioned that the model estimates the number of ignitions based on the square footage of buildings in various damage states. One person commented that fire ignition rates would vary greatly in number

and by source from one city to another and urged that the City undertake a study of ignitions specific to San Francisco.

One commenter said that decision makers should understand that there is little information on the vulnerability of buildings that serve children (private schools and day care centers), the elderly and ill (social service agencies, specialty medical clinics, elder care facilities) or historic buildings. There should be a program to identify and better understand the vulnerability of these buildings. One person suggested requiring seismic evaluation of all buildings designated as historic.

One person commented that owners need access to capital to recover. This was particularly important to business owners, and subsequently to the neighborhoods they serve. One commenter suggested discussing business needs directly with small business people because only they really know their needs.

### **San Francisco's Resiliency**

Simon Alejandrino presented information on the earthquake resilience of the Bay Area and San Francisco. His PowerPoint presentation is posted on the CAPSS web site. He pointed out that there is a recovery bias towards owner-occupied homes because it is easier to justify loans. He said that commute information in the study was based on 2000 census data, but that commute patterns would not vary much when considering 2010 data. A large earthquake would affect migration in and out of San Francisco, and perhaps the state. One commenter said that new immigrants would be affected severely and have a difficult time recovering.

### **SPUR Resilience Objectives**

Chris Poland described the SPUR framework that sets resumption, or reoccupancy, targets for various building uses. Copies of the summary table were distributed, are available on the CAPSS website.

### **Breakout Sessions**

The workshop attendees self-divided into four groups to discuss four questions. The group leaders were Mary Lou Zoback, Chris Poland, John Paxton and Ned Fennie. The questions discussed were the following:

- Which building uses should be addressed by policies and programs?
- Which building structural types should be addressed by policies and programs?
- What should be the City's long-term earthquake resilience priorities?
- If the City had a 40-year resilience plan, how would you phase the effort?

Written summaries of the discussions in each group are attached.

### **Summary Session**

At the end of the workshop the participants gathered in plenary session for reports from the four group leaders. Advice from the groups was generally consistent. The

groups agreed that the City should give greater emphasis to mitigation and preparedness than it currently does. All groups endorsed the concept of the SPUR matrix showing target states of recovery as a framework to guide policy decisions, but thought it needed more discussion by policy makers. Some groups suggested recommending the matrix be adopted by the City outright, while others suggested that various items be changed or examined in more detail. In general, there was consensus that the City should adopt resiliency goals to guide long-term mitigation planning, and that the SPUR matrix is a helpful starting point.

Most groups suggested that it would be most appropriate to organize mitigation programs by building use. Housing was expressed as the top priority building use by most groups, but other uses (private schools, neighborhood serving commercial, medical facilities, assisted living facilities, etc.) were also acknowledged to be very important. Factors other than building use, including vulnerability of structure type, number of occupants, and location (e.g., with respect to soil conditions and corner locations) were also noted as important, and could be used to prioritize action within a mitigation program.

Many groups recommended requiring evaluations of the structural integrity of buildings with important uses and public disclosure of the findings. This was seen as an approach that could encourage owners and tenants to take action that would be less intrusive than a mandatory retrofit requirement.

## **Conclusion**

Mr. Kornfield thanked the participants and said that a summary of the meeting would be provided. He asked that the group leaders and CAPSS team meet in the near future to discuss results.

**CAPSS Advisory Committee Workshop - February 10, 2010**

**Attendance**

**(based on sign in sheets)**

<u>Name</u>	<u>Affiliation</u>
Bruce Bonacker	San Francisco Heritage
Ed Lee	City Administrators Office
Robin Levitt	DBF Commission
Armand Silva	Geotech
Dawn Trennert	Middle Polk Neighborhood Association
Ned Fennie	CAC
Pat Buschovich	Structural Engineer
Debra Walker	BIC
Skip Soskin	Huntsman BOMA
Arthur Fellows	Fellows Structural Engineering
George Williams	Housing Action Coalition
Sharyl Rabinovici	UC Berkeley
Sig Freeman	WJE
Sarah Dennis	SF Planning Department
Brook Turner	CBH
Rene Vignos	Forell/Elsesser
Natalie Fogle	Architecture + Art
Paul Wermer	Neighborhood Network
Joe Grubb	Small Property Owner
Badie Rowshandel	CGS
Heidi Sieck	CCSF GSA
Tony DeMascole	ADM Consulting Engineer
Mainini Cabute	City of San Jose
Chris Fogle	Patri Merker Architects
Tom Anderson	Anderson Niswander Construction
Mike Mahoney	FEMA
Carla Johnson	SF Mayor's Office of Disability
Jeanne Perkins	ABAG
Glen Allenberg	SF resident/CAPSS member
Hanson Tom	SF Dept of Building Inspection
Bill Holmes	R&C

Bill Strawn	DBI
Vivian Day	DBI
Steve Harris	SGH/SEAONC
Chris Rojahn	ATC
Simon Alejandrino	BAE
Kent Leung	CCSF Dept of Public Works BOE
Katie Freeman	Hagerty Consulting
David Halsing	URS
Garrett Ingoglia	Hagerty Consulting
Jonas Ionin	SF Planning Department
Kurt Fuchs	Controller's Office
Amy Brown	SF Department of Real Estate
Dave Massen	SPUR
Kay Vasilyera	GSA - CAO
Brian Strong	GSA Capitol Planning
Paul Johnson	Northroad Builders
Lisa Fricke	SFAA
Jorge Martinez	SF resident
Tim Carrico	Apartment building owner
Jason Elliott	Mayor's Office
Chris Poland	SPUR/ Degenkolb
Chris Nance	CA Earthquake Authority
Cynthia Chono	CCSF Dept of Public Works
Peter Reitz	SPOSFI
Steve Appiano	Saunders Construction
Susan Christensen	SF DEM
Bob Noelke	Small property owner
John Paxton	Residential tenant
Mary Lou Zoback	RMS

### **Break Out Group One: Led by Ned Fennie**

This group endorsed the “spirit” of the SPUR matrix and setting performance objectives based on resiliency. They suggested the SPUR matrix be discussed. Above all they concluded that the City should refocus its efforts and dollars on mitigation activities, and that there is too much focus currently on emergency response.

The group thought it would be most effective to target mitigation programs by building use rather than building type. They suggested the following priorities for various building uses:

- City infrastructure and public buildings
- Residential buildings
  - Mandatory retrofit of the 4,400 wood frame buildings with five and more residential units and three or more stories
  - Other large multi unit buildings
    - This would include buildings of any structure type.
    - The largest and most vulnerable buildings, and those on the worst soils, should be addressed first.
    - Probably older concrete (non ductile) buildings over 10 stories in height would be one of the most vulnerable categories in this use
  - Single-family homes
- Particular social Services are also critical.
  - Services such as daycare are important. People can’t go to work, even if their homes and offices are usable, if their daycare is closed.
  - Other social services are similarly important.
- Private schools should be a high priority.
- Mixed use buildings in neighborhoods.
  - Residential buildings with ground floor commercial use are more important for community resiliency than buildings with only residential use.
- General commercial

Within each use category, their advice is to identify the most vulnerable structure types, and then begin with vulnerable buildings having the greatest number of occupants.

This group developed the following scheme to phase a 40-year plan:

Use	0-4 years	5-9 years	10-14 years	15-19 years	20-40 years
5+ unit Residential, wood frame 3+ stories	Complete				
Remaining multifamily residences	Begin	Complete			
Social Services		Begin	Complete		
Neighborhood serving mixed use buildings				Complete	
General Commercial				Complete	

## **Break Out Group Two: Led by Mary Lou Zoback**

### **1) Based on expected losses, which building uses should be addressed by policies and programs?**

**Single and/or multi unit housing**

**Medical services**

**Social services (day care, elder care)**

**Private schools**

**Commercial or industrial uses**

- There was extended discussion on how to rank or prioritize the different uses listed above. There was consensus that there was an urgent priority to address all of the building uses that are seismically vulnerable, question was timing and means.
- General agreement that housing was highest priority, with multi-unit (rental) higher than single-family homes.
- One group member argued that the next highest priority in terms of city government should be commercial, as many of the other types (private schools, medical and social services) represent functions that that consumers have choices about, more appropriate to regulate through consumer pressure. It is an interesting question regarding best role for government.
- This brought up the point that, for example, perhaps the best way to address private schools would be to require a vulnerability evaluation and full disclosure—this point fleshed out later.
- All felt that commercial space dedicated to small business and neighborhood-serving businesses should be a very high priority.
- Concerns raised over what percent of a building would have a “critical” use. What if a day care used only a few rooms in a much larger building? One or two medical offices could be in what would otherwise be a regular office building.
- Dedicated medical buildings and potential shelters were designated high priority.

### **2) Based on the expected losses, which building structural type should be addressed by policies and programs?**

Because we did not really have any structural engineers in the group (except one who acted more as an observer unless pressed), we did not spend a great deal of time on this question. Group was much more focused on building use combined with structural type.



There was a suggestion and general consensus that the City really needed to establish a very transparent process to evaluate and prioritize any kind of retrofit program. Assuming the city adopts some kind of resiliency goals similar to the SPUR recommendations, we thought that retrofit policy should be guided by a kind of ranking system taking into account three primary variables:

- 1) Inherent vulnerability of the building structural type
- 2) Value of the sociocultural and economic services provided (could range from historic value to value to establishing resiliency)
- 3) Site considerations (weak soils, corner location, etc.)

The number of occupants was very important, it could be a 4<sup>th</sup> criteria.

### **3) Based on the expected losses what should be the City's long-term earthquake resiliency priorities?**

- General agreement that multi-unit housing and mixed-used residential are key to resiliency and preserving affordable housing.
- Group strongly recommends that the City adopt the SPUR resiliency goals and then use them to shape policy.
- An engineer pointed out some of the practical difficulties with 95 percent shelter in place goal, claiming that no engineer is likely to certify a building will be occupiable while repaired.

### **4) If the City had a 40-year action plan to achieve resilience, how would you phase the effort?**

The group spent a fair amount of time discussing the table below. It also provided an opportunity to add recommendations regarding fire following earthquake, which was discussed immediately. Members of the group were skeptical that the general information on ignition sources for fire following earthquake had much applicability to San Francisco and suggested CAPSS needed to generate good data directly applicable to situations in San Francisco, such as gas lines that run along brick chimneys in Victorians.

<b><i>Program Objectives</i></b>	<b>2010-2014</b>	<b>2015-2019</b>	<b>2020-2029</b>	<b>2030-2039</b>	<b>2040-2049</b>
<b>City to develop a transparent and rational retrofit program strategy based on SPUR resiliency goals and the three criteria described in question 2 above (bldg. type vulnerability, social and resiliency “value”, site conditions (poor soils, corner bldg, etc.)</b>	---				
<b>Carry out mandatory evaluation and retrofit, where required, of all 3+ story, 5+ unit wood-frame, pre-1973 buildings.</b>	-----				
<b>Mandate a program of vulnerability assessment (pre-tagging) and full disclosure and posting of results for the following building uses: multi-unit housing, mixed use RES and COM, social services (day care, elder care), private schools, medical services). Initially assessment could be triggered by building permit application, sale, or change of use permit. Eventually all targeted buildings covered.</b>	-----				
<b>Conduct a study of potential earthquake triggered ignitions and fire vulnerability specific to SF</b>	---				
<b>Based on results of above study, implement a fire vulnerability mitigation program</b>		-----			

### **Break Out Group Three: Led by John Paxton**

#### Main Conclusions, or priorities:

1. We need a plan, a model, something to guide our future decisions and actions relative to earthquake mitigation.
2. We need to do something to get the ball moving forward; we need to take action. There was an over-all sense of frustration that the pace of action was inadequate, and that efforts to educate the public and government had largely been ignored.
3. Housing is critical, above everything else.

#### Discussion on Policy / SPUR matrix:

- Policy is important; we need to have a clear objective.
- Benefit in recognizing that there has been a shift in decision criteria from casualties and costs, to resiliency.
- Most participants were not very familiar with the SPUR table, but believed that it was something, and that something was better than nothing. They believed that a lot of thought had gone into it and that it was a good program.
- They agreed that we should encourage the Building Inspection Commission and the Board of Supervisors to adopt a plan, and that the SPUR table was as good as anything.

#### Housing preservation is critical, and of utmost importance:

- Soft story program was the cart before the horse, since it came out before we had adopted goals, and before the vulnerability study had been prepared.
- That being said, it was an indication that something was happening, and could give optimism that something was actually getting done to address earthquake vulnerability.
- Its discussion would raise public awareness, which would have other benefits.
- Concerns were expressed over “who will pay” for seismic upgrades to housing; effect that rent control will have
- Interest in exploring planning incentives for retrofits
- Importance of post-earthquake repair standards
- One group member expressed importance of single-family houses, and felt that action on multi-unit buildings would encourage retrofits to single family dwellings.

#### Other significant points which were stressed, or important to the participants:

- Concern that emphasis on soft-story was misplaced, since (1) not all soft-story structures will behave the same because of other factors, and (2) that it

implicitly ignored other factors that will significantly contribute to building's vulnerability.

- We need to shift tactics in communicating to the public, from risk of loss of life and personal safety, to an earthquake will jeopardize the equity you have in your property, and it will jeopardize the local economy, your job, and your economic well-being.
- One group member expressed belief that earthquake vulnerability is a regional and state problem, and that the issues should be addressed on that level.
- There was no particular interest in private schools, medical facilities, historical buildings, etc.
- Late in the discussion, the group independently came up with the benefits of inspections (vulnerability assessments) of each building. The idea caught most people's interest and fascination—but then time ran out.

## Break Out Group Four: Led by Chris Poland

### 1. Which building uses should be addressed by policies and programs?

All are important and should be addressed in a long-term program that has four phases including deadlines for each occupancy milestone following the pattern set by SB 1953.

Screening	City identifies the buildings that are deemed to comply and those that are in need of additional evaluation.
Assessment	Owner sponsored evaluation to determine compliance using code defined criteria or need for mitigation. More buildings will be deemed to comply.
Mitigation	Owner sponsored mitigation to achieve compliance. Compliance may be achieved by rehabilitation, reclassification, or complete replacement. All buildings should comply at the end of this phase
Posting	All buildings posted physically and on the Internet and recorded on the title as compliant or non-compliant. Compliance posting/recording may be done at any time the building is deemed to comply. Non-compliance posting only occurs when the final deadline for compliance passes. Until that time, the property is deemed to be under evaluation.

Consideration needs to be given to the follow opportunities to encourage mitigation

An intuitive, certifiable and verifiable rating system must be adopted that includes enforceable code language.

An Internet based enforcement program must be developed to track and maintain the ratings and tie them to the other city master data bases.

Voluntary efforts are permissible, but only change the rating when the milestone level of performance or better is achieved.

Incentive programs that include permit fee waivers, priority review, tax credits, cash, Mello Roos districts, and public education.

2. Which building structural types should be addressed by policies and programs?

Non-ductile concrete buildings since they are generally not repairable. However, the screening process needs to recognize and establish different parameters for low rise buildings (up to 3 stories) high rise concrete shear wall built between 1920 and 1960, and high rise concrete frames built between 1960 and 1980.

Buildings within these categories should be prioritized by use with schools going first.

3. Which should be the City's long-term earthquake resilience priorities?

The City should adopt SPUR type programs goals, using the SPUR *Urbanist*, February 2009, Resilient City model. Their time line approach and focus on quickly restoring the workforce is key to recovery. However, the following concerns, issues, and additions need to be addressed.

Much more public discussion is needed about the content and goals in the matrix

Split many of the categories to better define what needs to be done and when. For example, distinguish between main roads available for moving emergency equipment and supplies from secondary streets. Declare the need for traffic control through operable lights or personnel.

Add a 10-day goal to Phase 2. Housing, schools providing day care, etc. can and need to be restored faster than 30 days.

Clarify what needs to be accomplished within 36 months. Full restoration is only a dream.

Consider financing needs, and the need to be able to pay the 1000's of contractors that show up. Neighborhood restoration needs to include restoration of personal banking.

Somehow add a program to mitigate both electric and gas fire ignitions. Consider a master switch to turn off the electricity at a building.

Consider front loading more items into Phase 1 goals.

4. If the City has a 40-year resilience plan, how would you phase the effort?

Soft Story

Old Concrete buildings

Other vulnerable residential wood buildings

Post 1970, pre 1990 Steel Frame Commercial office buildings

Revisit unreinforced masonry buildings