

# On Solid Ground

How Good Land Use Planning Can Prepare the Bay Area  
for a Strong Disaster Recovery



## On Solid Ground

SPUR Forum

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## CALIFORNIA AREA EARTHQUAKE PROBABILITY

### More than 99%

probability in the next 30 years for one or more magnitude 6.7 or greater quake capable of causing extensive damage and loss of life. The map shows the distribution throughout the State of the likelihood of having a nearby earthquake rupture (within 3 or 4 miles).

30-Year Earthquake Probability

0.01% 0.1% 1% 10%

Boundary used in this study  
between northern and  
southern California

### Regional 30-year earthquake probabilities

Magnitude	San Francisco region*	Los Angeles region
6.7	63%	67%
Magnitude	Northern California**	Southern California
6.7	93%	97%
7	68%	82%
7.5	15%	37%
8	2%	3%

\*Probabilities from UCERF for the San Francisco region are nearly identical to the previous results from WGCEP 2003.

\*\*These probabilities do not include the Cascadia Subduction Zone

With seven major fault zones throughout Bay Area the entire region is subject to strong shaking

0 200 MILES  
0 200 KILOMETERS

# What is seismic resilience?

Seismic resilience is the ability of the city to:

- **contain the effects** of earthquakes
- **carry out recovery** activities in ways that minimize social disruption
- **rebuild** in ways that mitigate the effects of future earthquakes







02.09

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## WHEN IS A BUILDING SAFE ENOUGH?



### The Resilient City

Part 1: Before the disaster

## Before the Disaster

Defining what cities  
need from their  
seismic mitigation  
policies

# Safe Enough to Stay



What will it take for San Franciscans to live safely in their homes after an earthquake? A significant amount of housing may be too damaged to live in while it's being repaired. Residents may leave. And that will put the city's recovery at risk. Here's how to prevent San Francisco from losing its most important asset: its people.

What will it take for San Franciscans to live safely in their homes after an earthquake?





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REBUILDING OUR BRIDGES, ROADWAYS AND TRANSIT LINES

## After the Disaster

Rebuilding after a major event

# What strategies are needed to address land use planning challenges to facilitate recovery?



San Francisco - 1906



Katrina - 2005



# **Land Use Planning and Recovery: A Focus on Local Government**

- The vast majority of zoning and planning decisions are made at the local level.
- Local governments have the responsibility to develop the vision for how their cities will recover.
- Actions that local governments take now have the potential to either help or hurt long term recovery.

# Land Use Planning and Recovery: Planning Challenges

- Time Compression
- Scale
- Tension between rebuilding quickly and rebuilding well
- Multiple recoveries all happening at the same time
- Pressure to rebuild what was: the “first plan”
- Information needed to make decisions not readily available

# Land Use Planning and Recovery: Issues

- I. Developing a Recovery Vision
- II. Earthquake Hazards
- III. Implementing Recovery
- IV. Financing
- V. Information



# Planning Process

“Gearing up and sorting out” versus “ready-fire-aim”





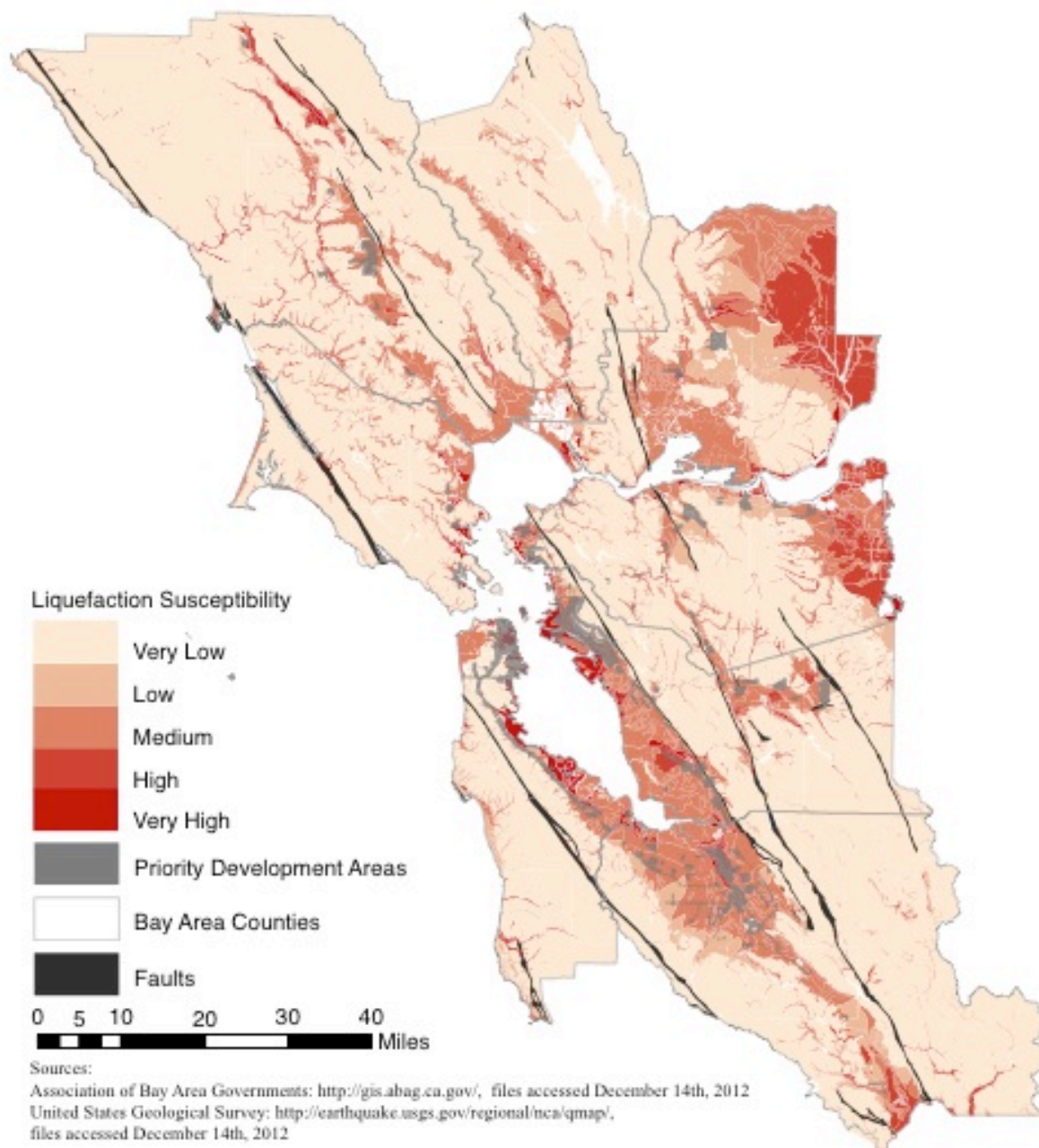
## **Rebuilding According to Existing Plans and Codes:**

Rebuilding structures in conformance with the zoning, general plans, specific areas plans and other adopted plans that were in place before the disaster.

## **Re-planning:**

Rebuilding structures according to new zoning regulations, general plan updates and specific plans as part of a re-planning process that occurs after the disaster.

## Liquefaction Susceptibility in the Bay Area



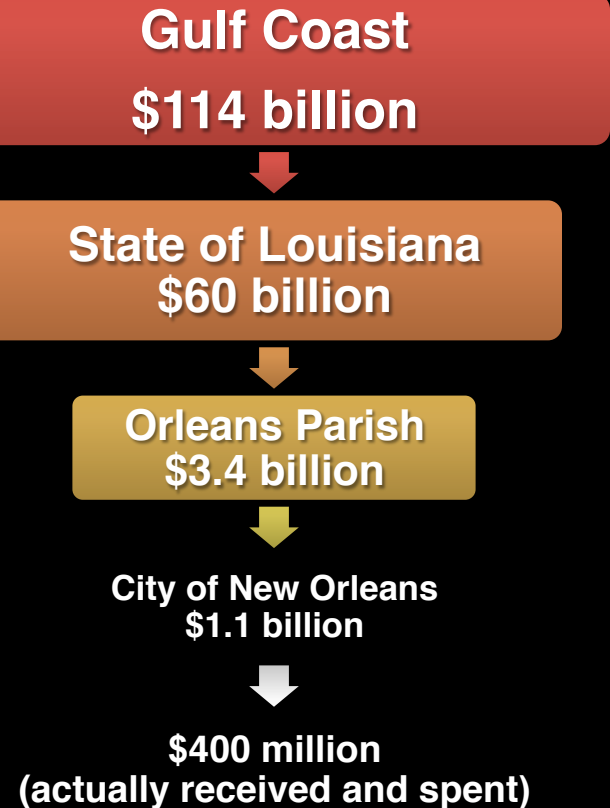
Many parts of the Bay Area facing risk from earthquake hazards (including liquefaction susceptibility, as shown here) will continue to be developed in the coming years as the region

# Implementing Recovery

- Environmental Review (CEQA/NEPA)
- Redevelopment
- Non-Conforming Uses
- Historic Preservation
- Affordable Housing


# Financing

- Money fuels disaster recovery.
- Funding comes from federal, state and private sources, but local government will also have to find ways to fund recovery.
- We have very low rates of private insurance – but residents and businesses will also need funding to rebuild.
- Limited funds for land use planning issues.





# Land Use Planning and Recovery: Information

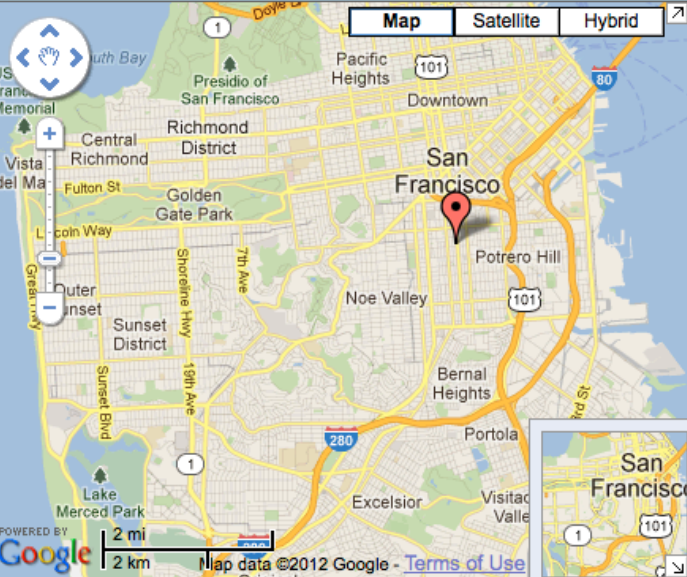
**San Francisco Property Information Map**  
*Public Access to Useful Property Information & Resources at the Click of a Mouse*

Tell us what you think of this map.

[Link](#) [Disclaimer](#)

**Step 1: Search or Click on the Map**  
Search Examples: 400 Van Ness Ave 0787/001  
Mission and Van Ness 2011.0218  
Ferry Building

[Measure Distance](#) | [Street View](#) | [Map Legend](#) | [Clear Map](#)



Map Satellite Hybrid

San Francisco

Map data ©2012 Google - [Terms of Use](#)

**Step 2: Review Property Information**  
Click tabs below to view property or parcel information

Property

Zoning

Preservation

Projects

Building Permits

Other Permits

Complaints

Appeals

**Zoning Report:** Latitude: 37.76236 Longitude: -122.41791 [Printable Version of Reports](#)  
[Glossary](#)

**ZONING DISTRICTS:** ☒ MAP  
UMU - [URBAN MIXED USE](#)

**HEIGHT & BULK DISTRICTS:** ☒ MAP  
[40-X](#)

**SPECIAL USE DISTRICTS:** ☒ MAP  
[Mission Alcohol Restrict](#)  
[Fringe Financial Services RUD](#)  
[Within 1/4 Mile of an Existing Fringe Financial Service](#)

**SPECIAL SIGN DISTRICTS:** ☒ MAP  
None

**LEGISLATIVE SETBACKS:** ☒ MAP  
None

**COASTAL ZONE:** ☒ MAP  
Not in the Coastal Zone

# Summary

- A major earthquake is very likely to occur in the Bay Area in the next 30 years.
- There are steps we can take before the disaster that will help us with our recovery process once the disaster strikes.