Multi-Jurisdictional Local Hazard Mitigation Plan

The City Of Vacaville in conjunction with

The ASSOCIATION OF BAY AREA GOVERNMENTS

Federal Disaster Mitigation Act of 2000 (DMA 2000)

- Focuses on mitigation **before**, rather and after, disasters
- Ties future **mitigation funding** to cities, counties, and special districts having completed Local Hazard Mitigation Plans.
- LHMP implemented by FEMA to meet DMA 2000 requirements

Eligible for Mitigation Funding from FEMA

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Grants (FMA, SRL)

Is worth complying even if we don’t plan to apply for mitigation funding from FEMA?

YES! New 2007 State Legislation waives the 6.25% match requirement for Public Assistance damage reimbursement for jurisdictions with approved LHMP

ABAG is taking the lead in developing the multi-jurisdictional LHMP

- Approximately 100 Bay Area cities, counties, special districts collaborating
- Regional workshops to set mitigation priorities for the region
- Update of 2005 plan http://quake.abag.ca.gov/mitigation/plan.html

MJ-LHMP Goal

To develop a **disaster-resistant region** by:

- Reducing the potential loss of life, property damage, and environmental degradation from natural disasters, while
- Speeding economic **recovery** from disasters

MJ-LHMP Focuses on *NATURAL* Hazards

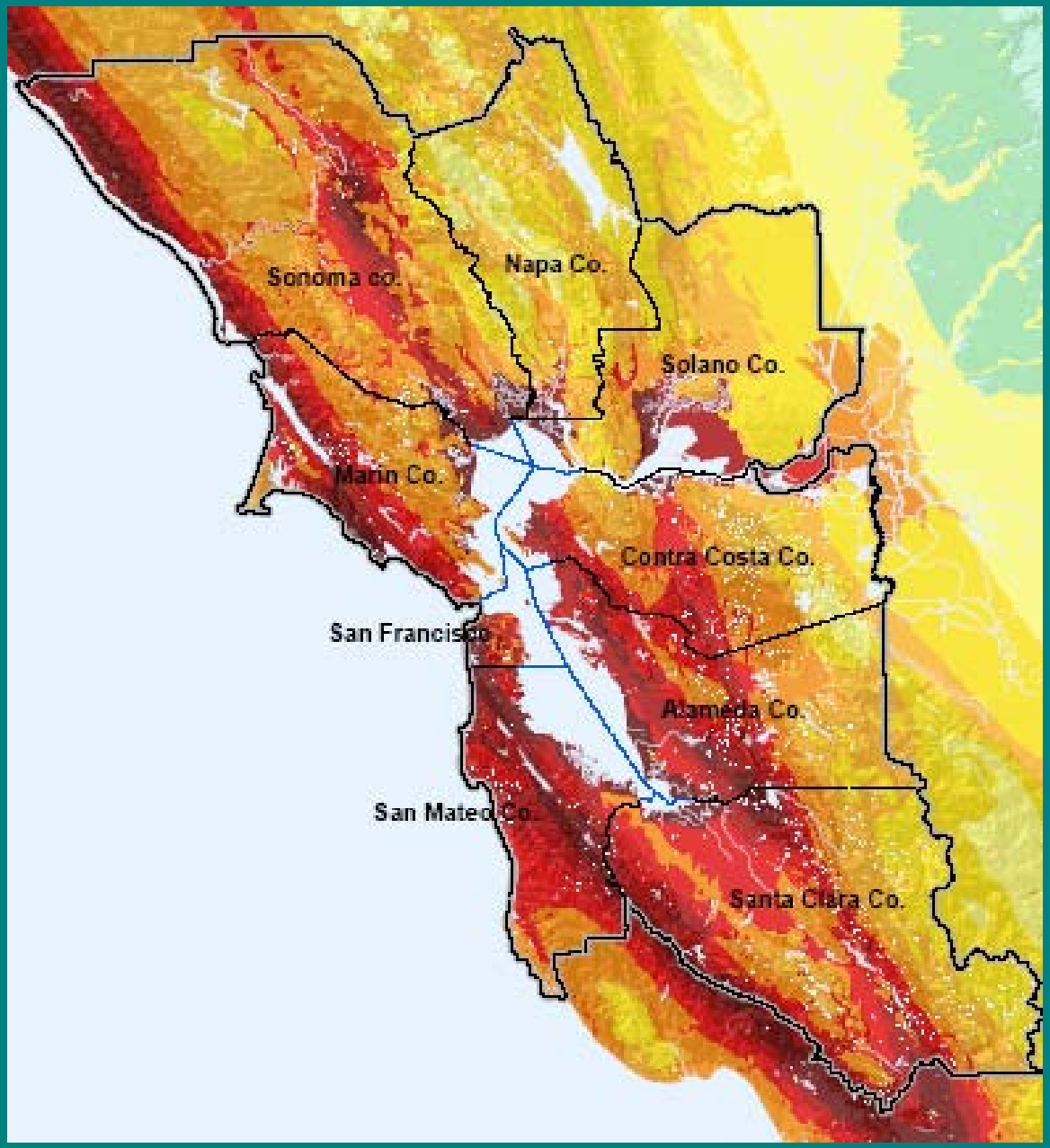
Earthquake Related Hazards

- Ground Shaking
- Fault Rupture
- Liquefaction
- Landslides
- Tsunamis

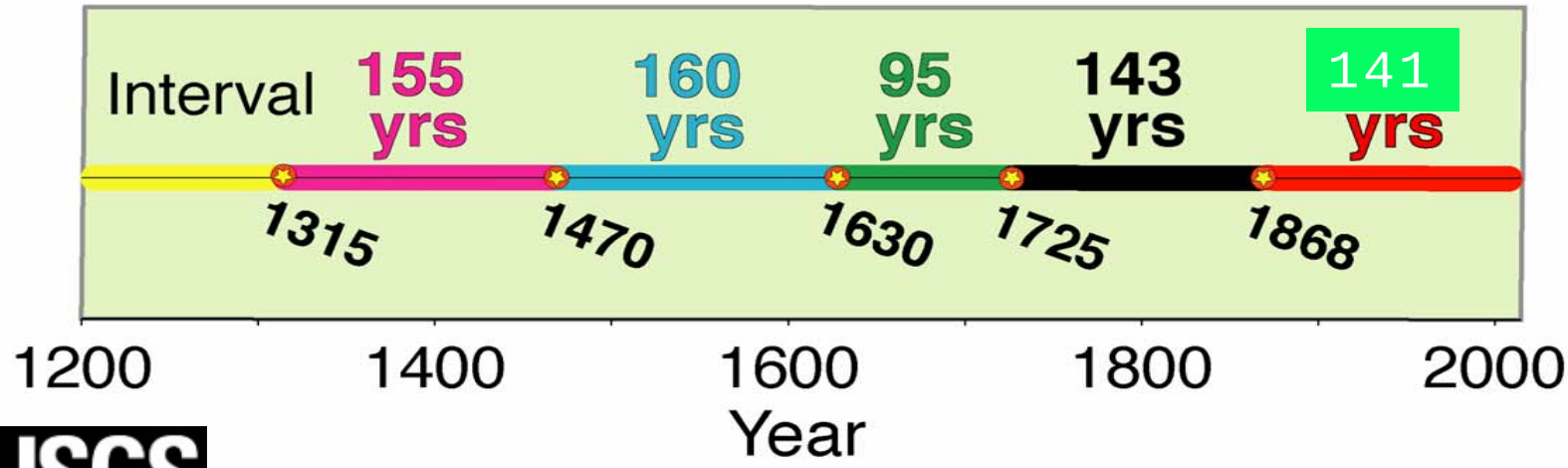
Hazard maps available online at
http://quake.abag.ca.gov

Shaking Potential

37.1% of land, 55.5% of urban land, and 55.7% of roads are in the potential areas of highest shaking



The Last Five Hayward Fault Earthquakes Have Been 140 Years Apart on Average



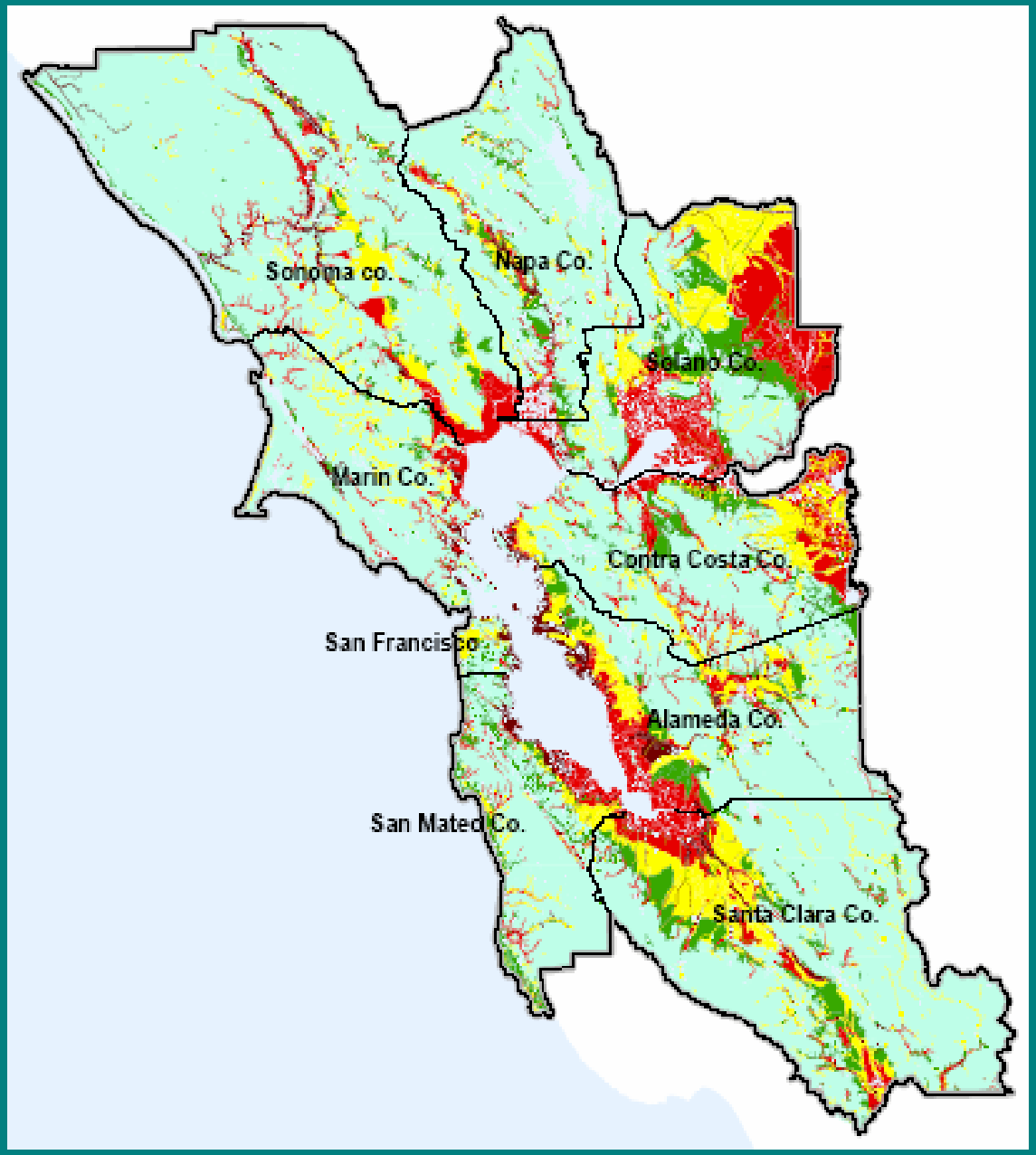
USGS
science for a changing world

The Hayward fault is overdue for a major earthquake.

Liquefaction Susceptibility

Very High-

- 2.4% of land
- 6% of urban
- 4.6% of roads



Infrastructure – Roads

- 142 road closures in Loma Prieta
- 140 road closures in Northridge
- 1,700 road closures in ***future*** Hayward quake

Past Housing Impacts

- Over 16,000 uninhabitable units in Loma Prieta
- Over 46,000 uninhabitable units in Northridge
- Over 155,000 uninhabitable units in a ***future*** Hayward or San Andreas earthquakes

Weather-related hazards

- Flooding
- Landslides
- Wildfires
- Drought
- Climate Change

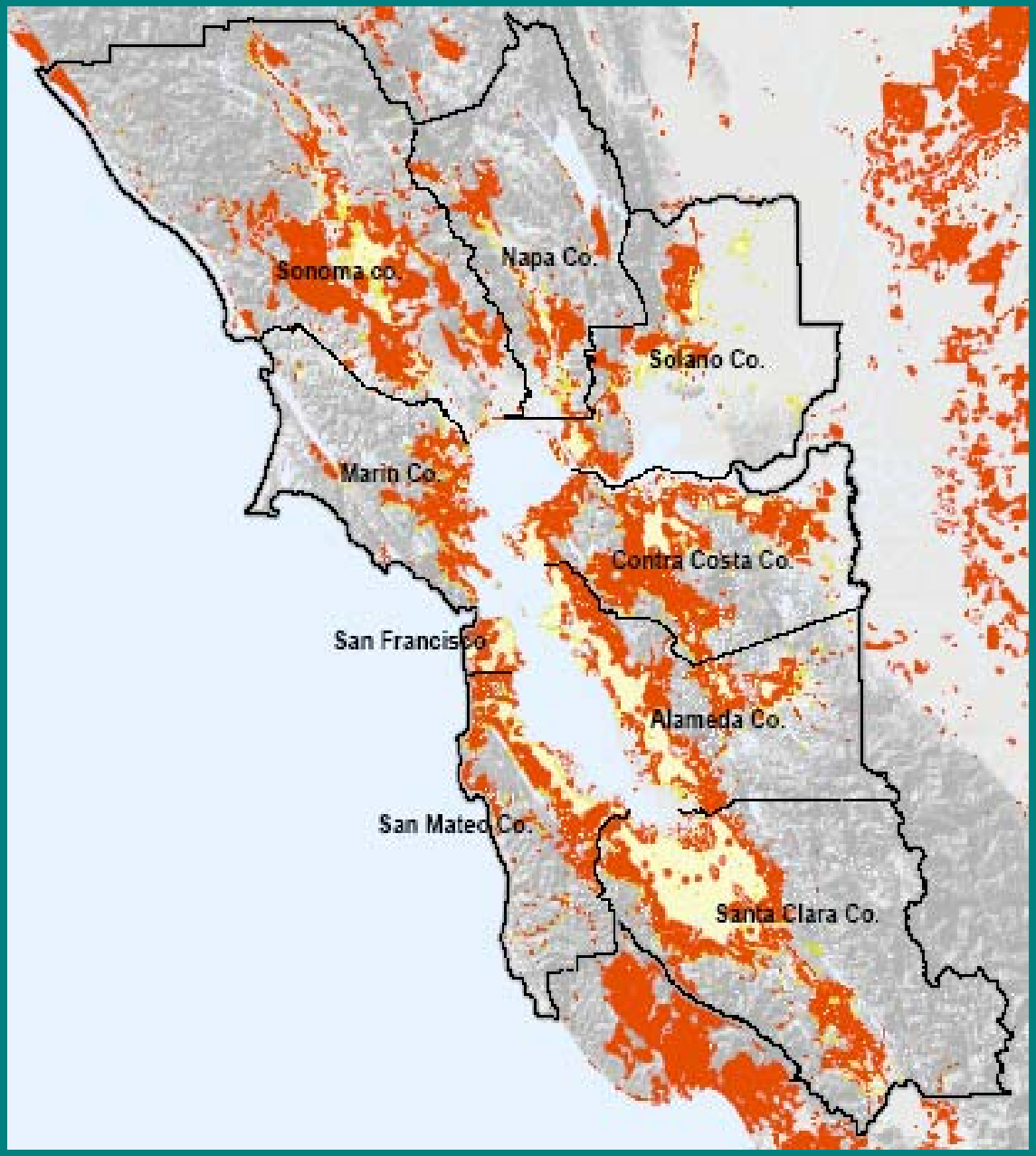
Flooding Hazard

100 year event

- 9.4% of land
- 8.9% of urban
- 7.3% of roads

Wild Land-Urban Interface Fire Threat

- 48.5% of urban
- 40.7% of roads

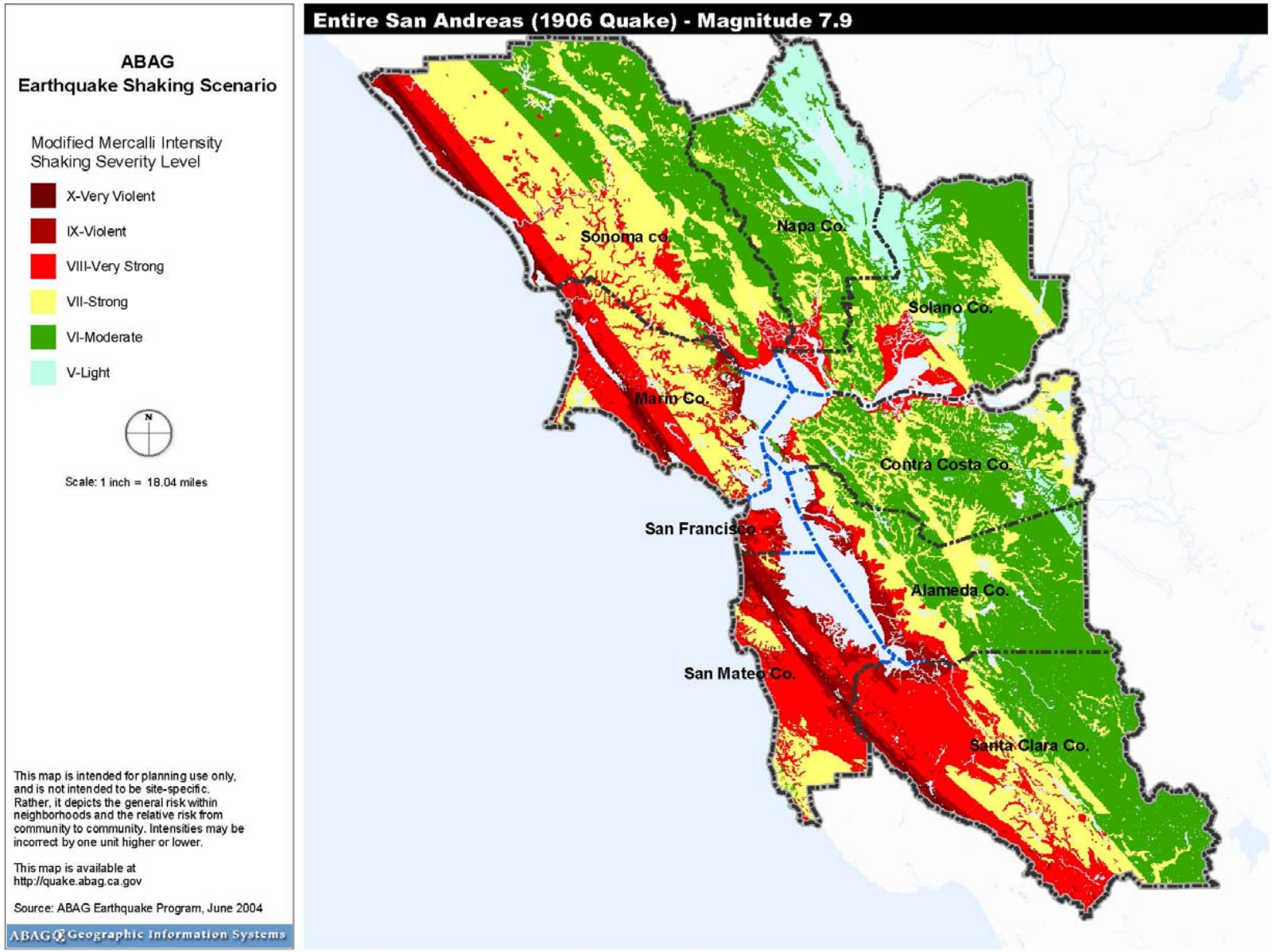


Existing Landslide Areas

- 23% of land
- 8.3% of urban
- 10.5% of roads

What Does This Mean for Vacaville?

Bay Area Shaking Hazard – 1906 San Andreas scenario



Solano County Shaking Hazard – 1906 San Andreas scenario

ABAG
Earthquake Shaking Scenario

Modified Mercalli Intensity
Shaking Severity Level

- X-Very Violent
- IX-Violent
- VIII-Very Strong
- VII-Strong
- VI-Moderate
- V-Light

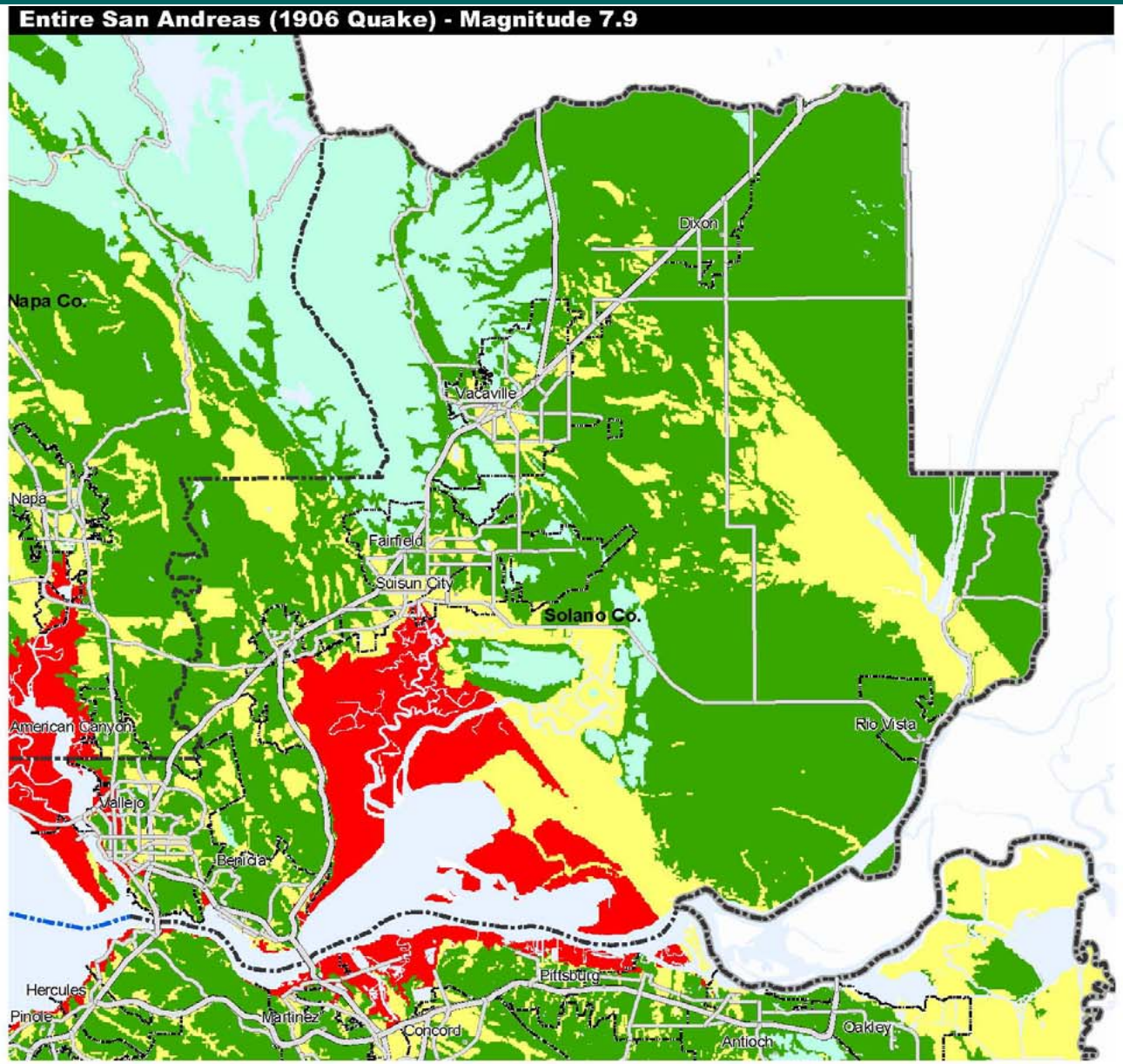
Scale: 1 inch = 5.26 miles

This map is intended for planning use only, and is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community. Intensities may be incorrect by one unit higher or lower.

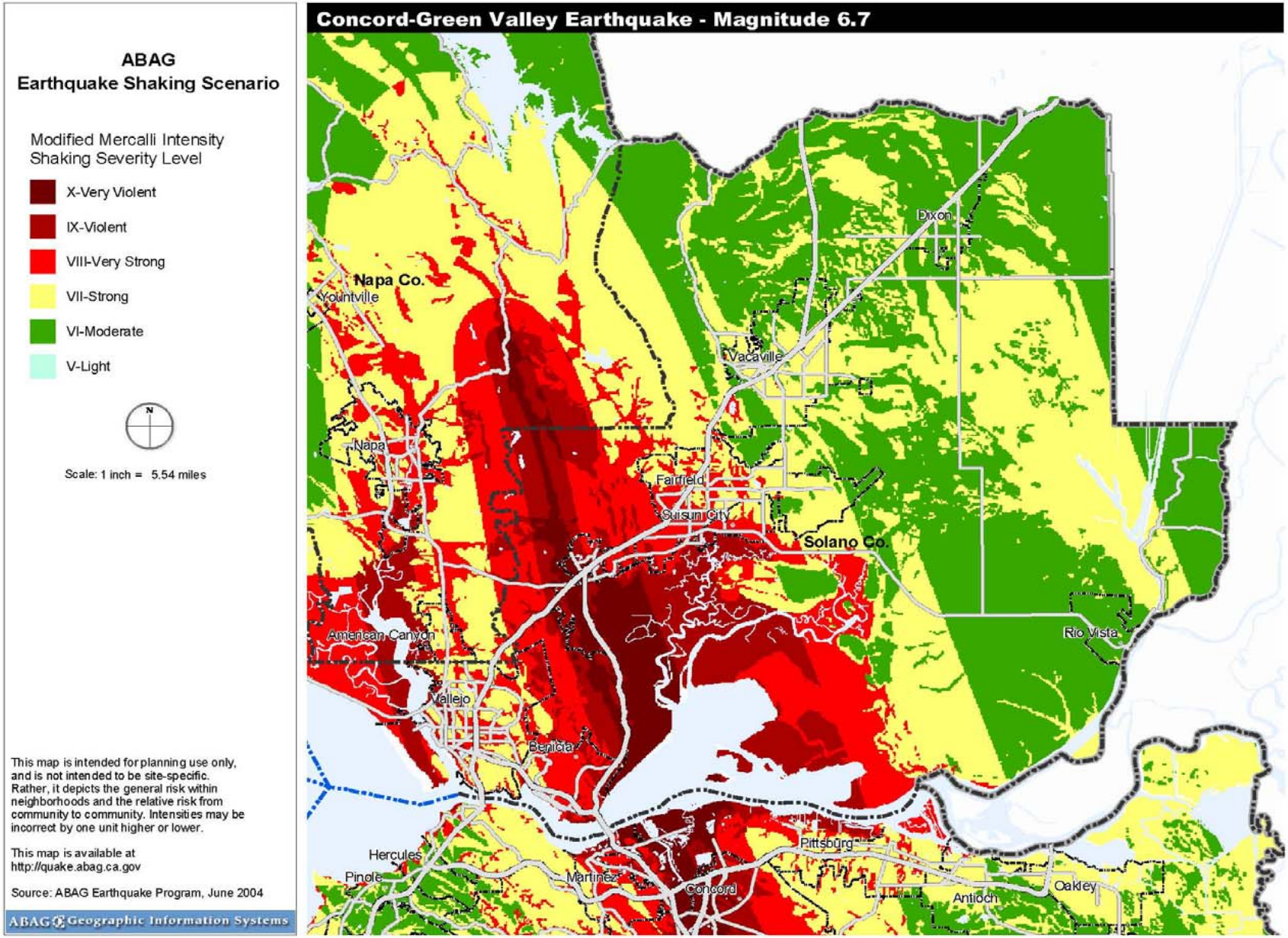
This map is available at http://quake.abag.ca.gov

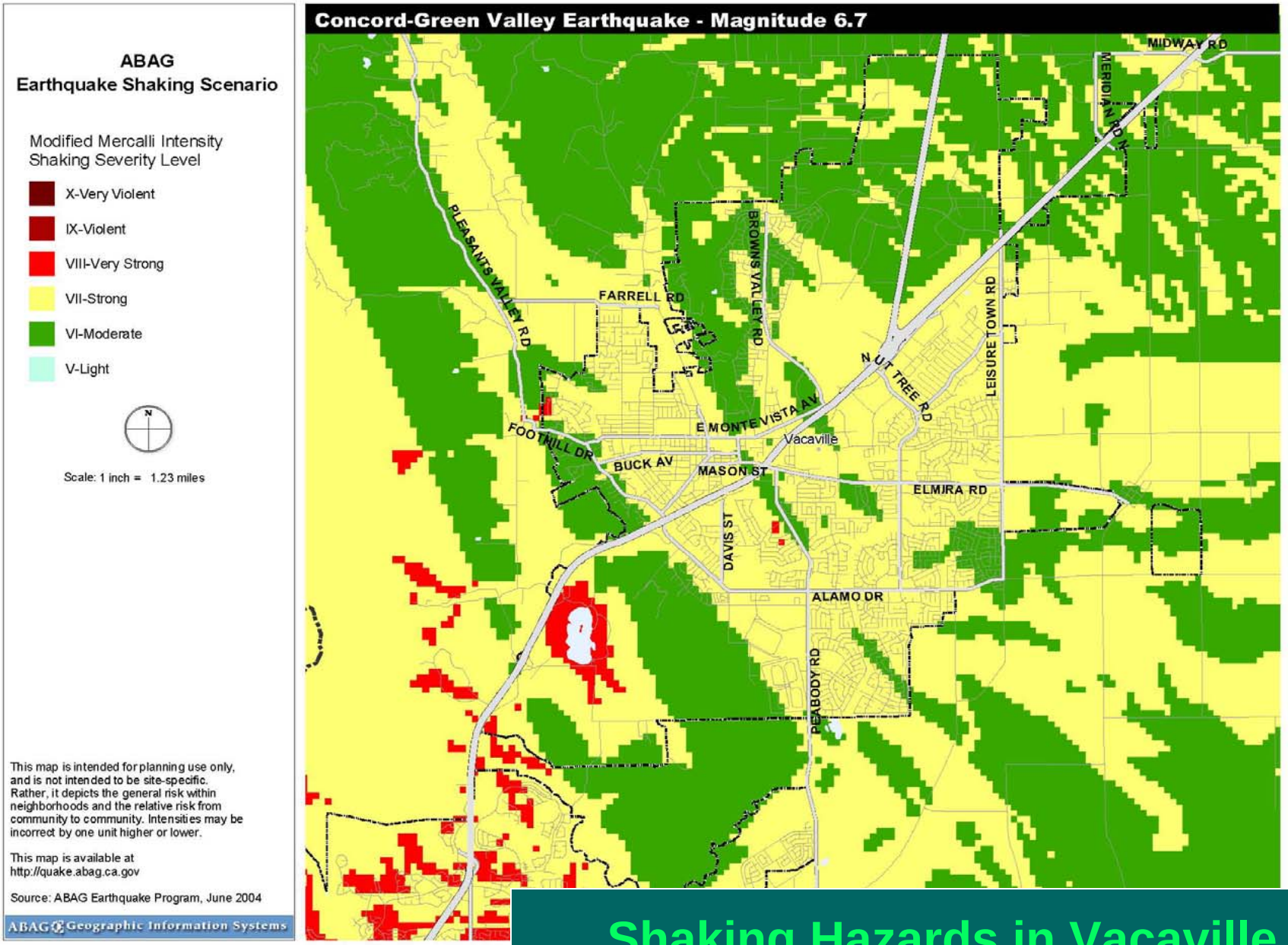
Source: ABAG Earthquake Program, June 2004

ABAG Geographic Information Systems



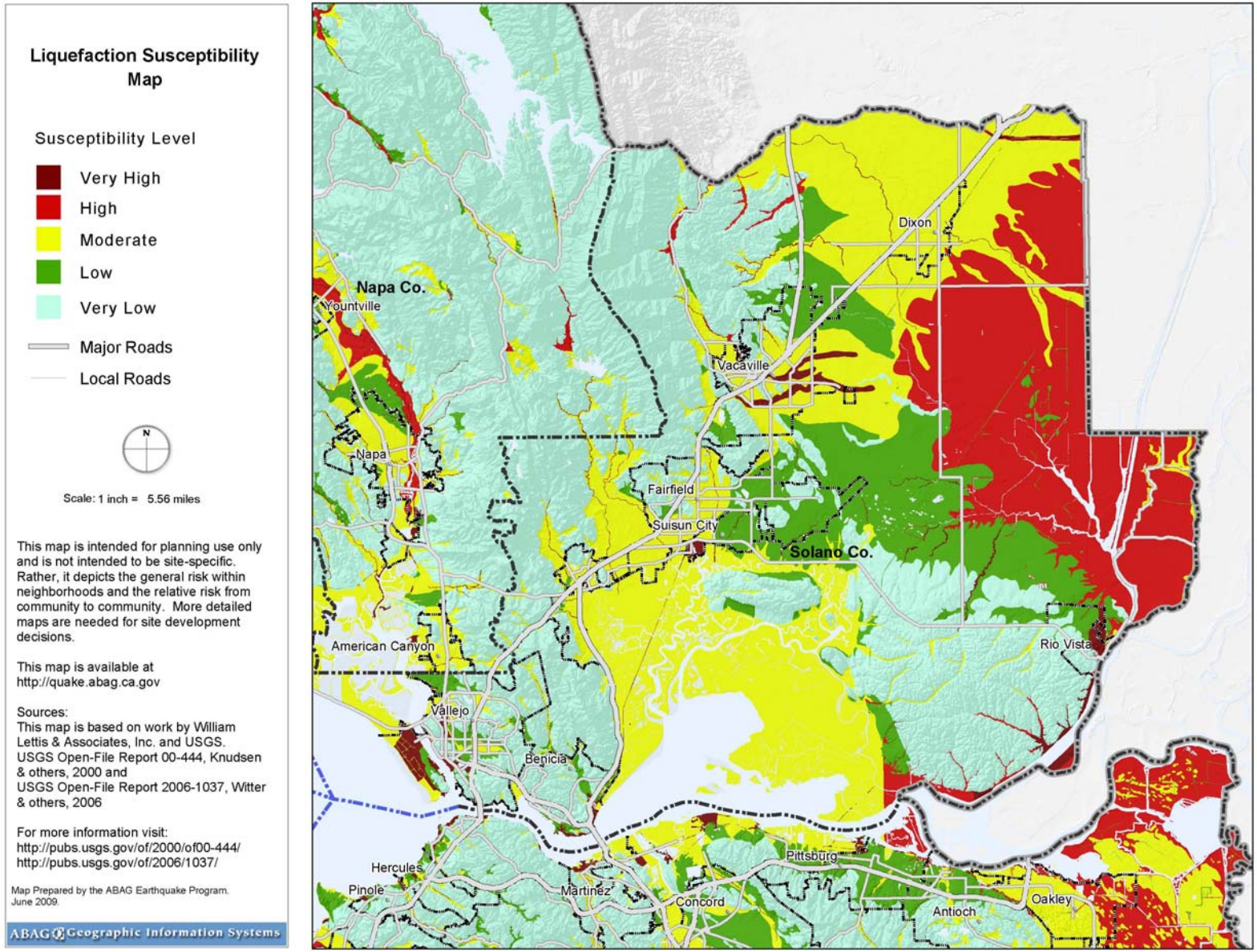
Concord and Green Valley Earthquake



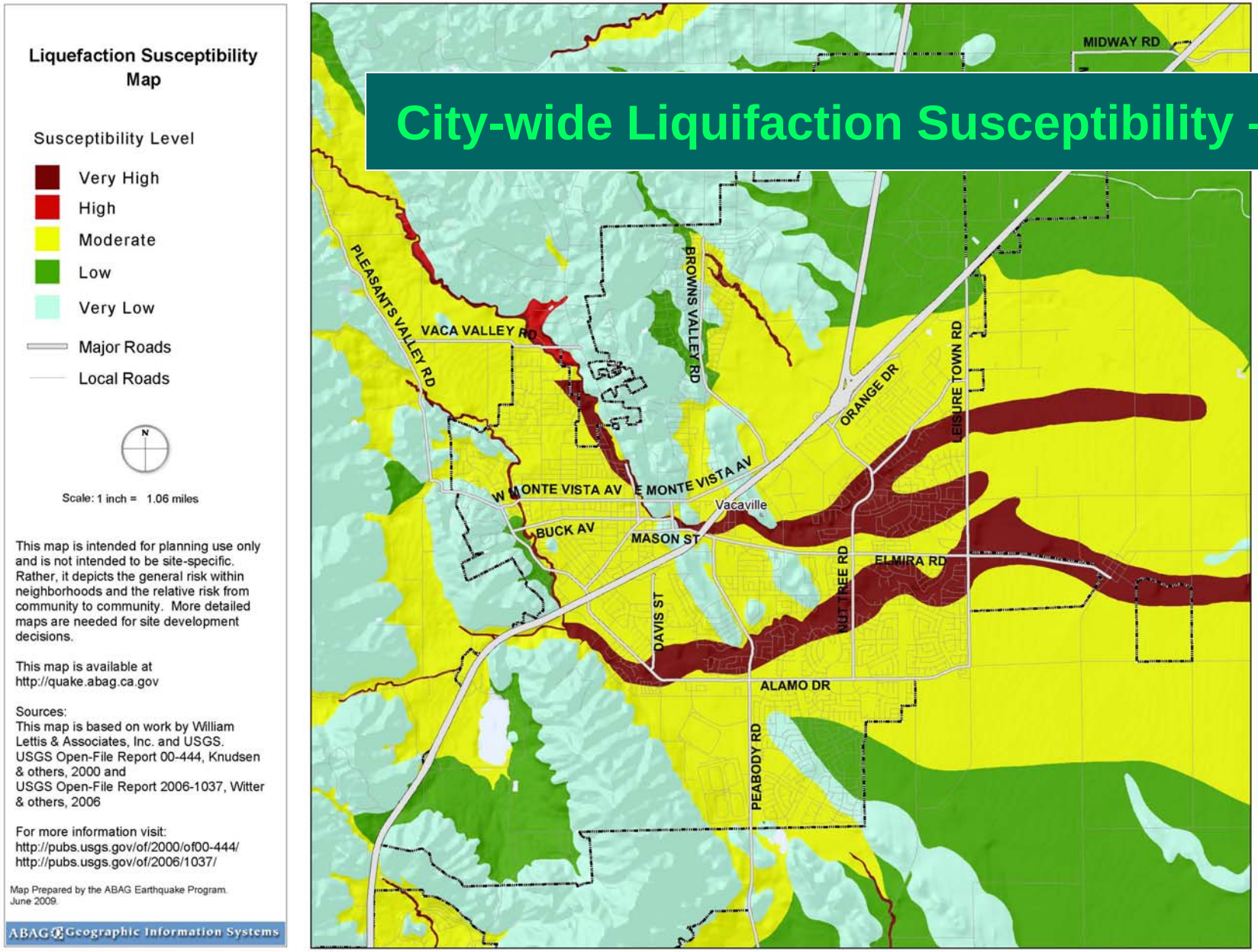


Shaking Hazards in Vacaville

County-wide Liquifaction Susceptibility-



City-wide Liquifaction Susceptibility –



Neighborhood Liquifaction Areas

Liquefaction Susceptibility Map

Susceptibility Level

- Very High
- High
- Moderate
- Low
- Very Low
- Major Roads
- Local Roads

N

Scale: 1 inch = 0.39 miles

This map is intended for planning use only and is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community. More detailed maps are needed for site development decisions.

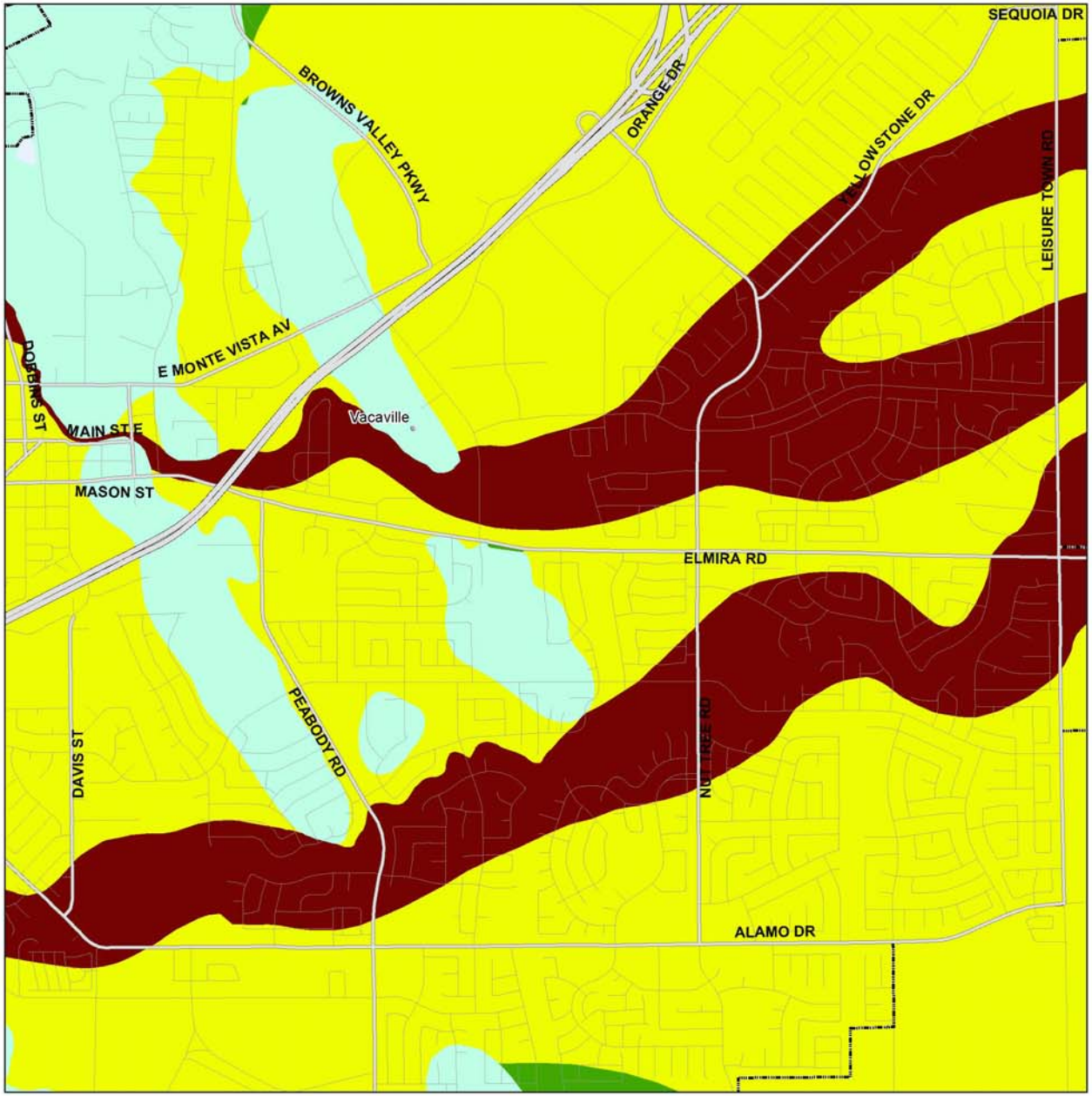
This map is available at http://quake.abag.ca.gov

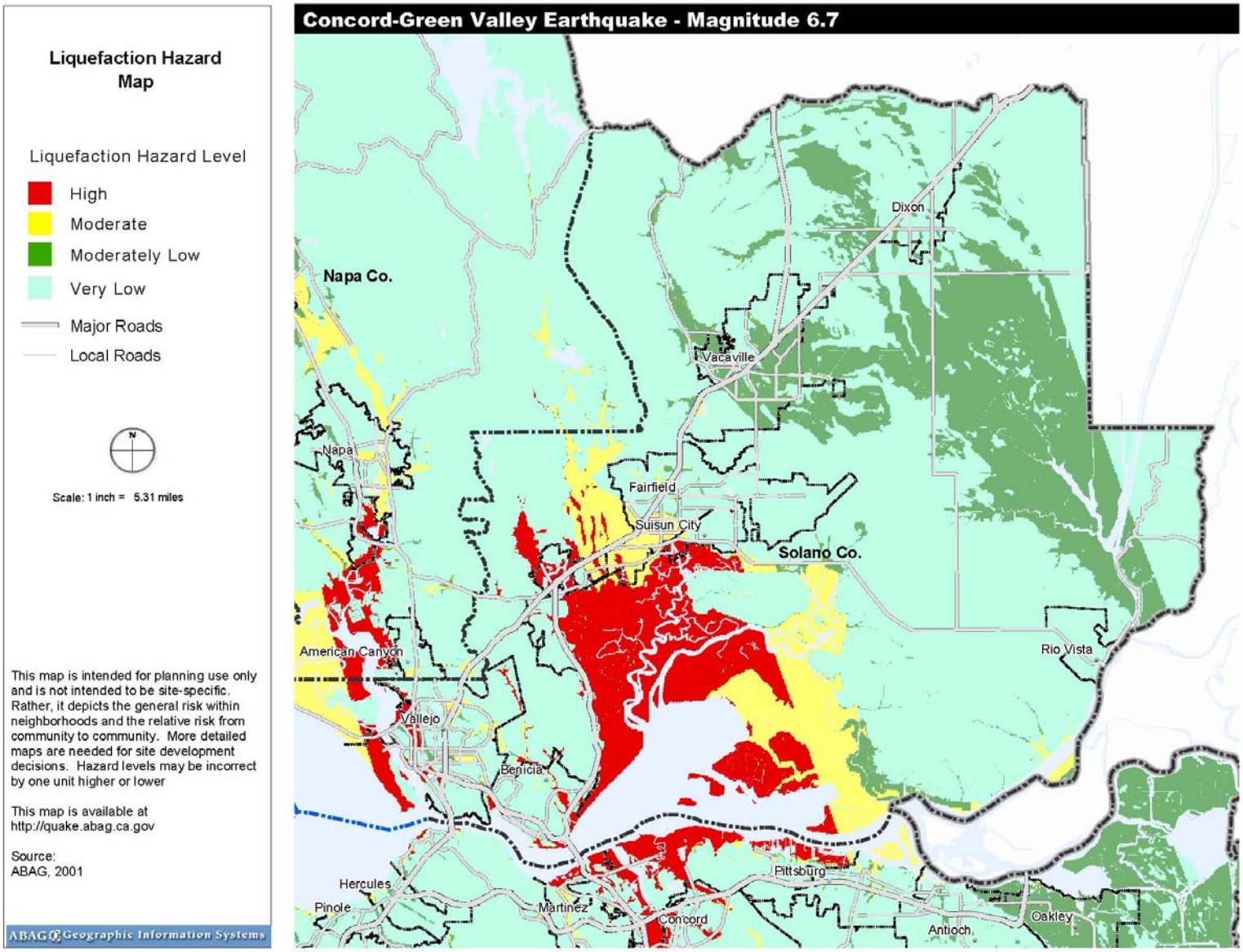
Sources:
This map is based on work by William Lettis & Associates, Inc. and USGS. USGS Open-File Report 00-444, Knudsen & others, 2000 and
USGS Open-File Report 2006-1037, Witter & others, 2006

For more information visit:
http://pubs.usgs.gov/of/2000/of00-444/
http://pubs.usgs.gov/of/2006/1037/

Map Prepared by the ABAG Earthquake Program. June 2009.

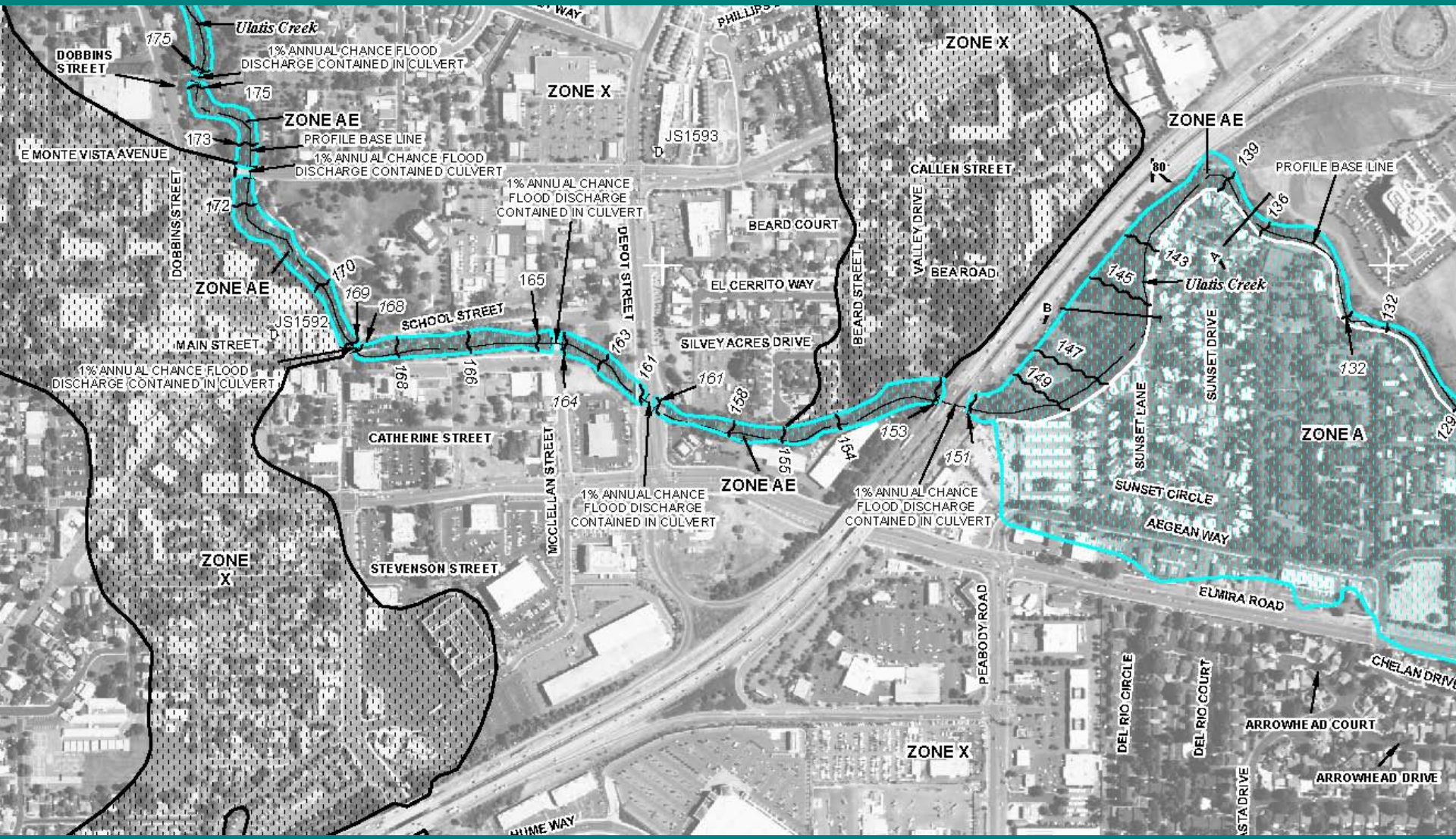
ABAG Geographic Information Systems



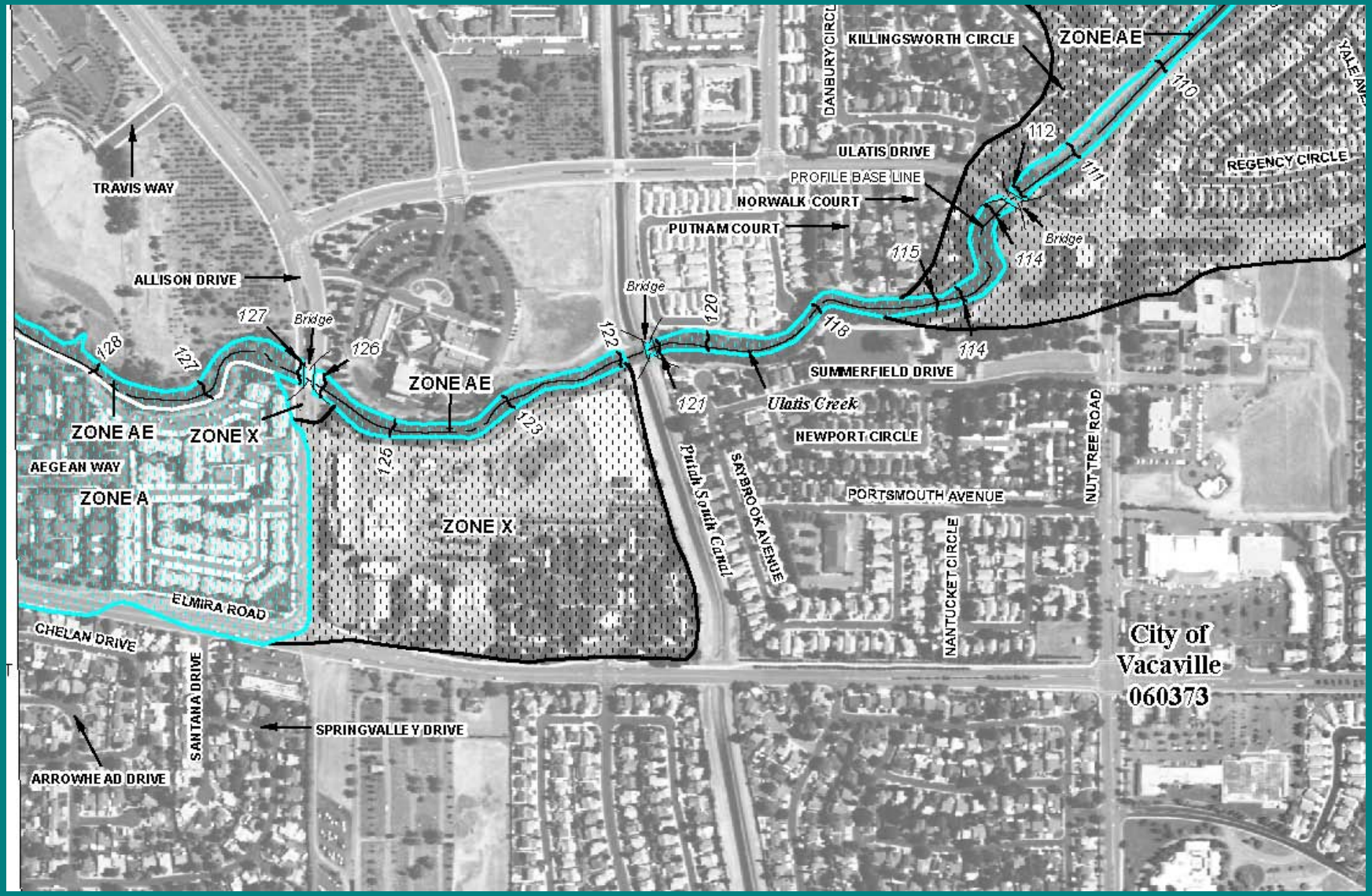


Anticipated Quake on the Concord-Green Valley Fault
Liquifaction Probability

Ulatis Creek – Flood Hazard Map



Ulatis Creek – Flood Hazard Map



Wildland-Urban Interface -

Wildland Urban Interface - Fire Threatened Communities

Community at Risk

Urbanized Area

N

1 inch = 1.08 miles

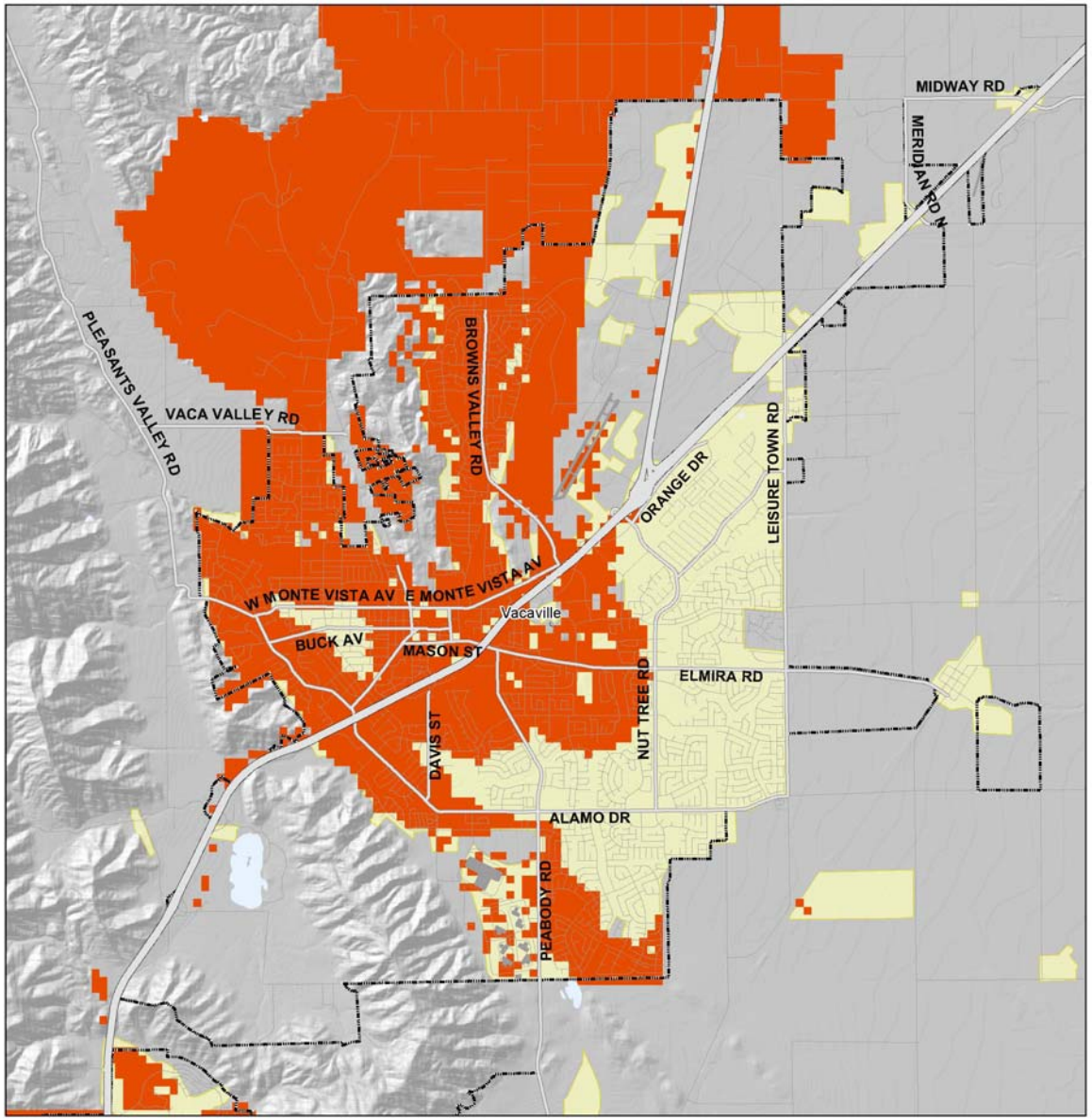
Local fire jurisdictions may have identified additional fire hazard areas, especially in communities adjacent to wildland.

This map is intended for planning use only and is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community.

This map is available at http://quake.abag.ca.gov

Source:
California Department of Forestry and Fire Protection, 2003

ABAG Geographic Information Systems



Most Probable Fire Threats -

Fire Threat in the San Francisco Bay Region

- Extreme
- Very High
- High
- Moderate
- Little or No Threat

N

1 inch = 1.07 miles

This map focuses on wildland fuels in State Responsibility Areas, that is, where the California Department of Forestry has primary jurisdiction for wildland fire response. Local fire jurisdictions may have identified additional fire hazard areas, especially in communities adjacent to wildland.

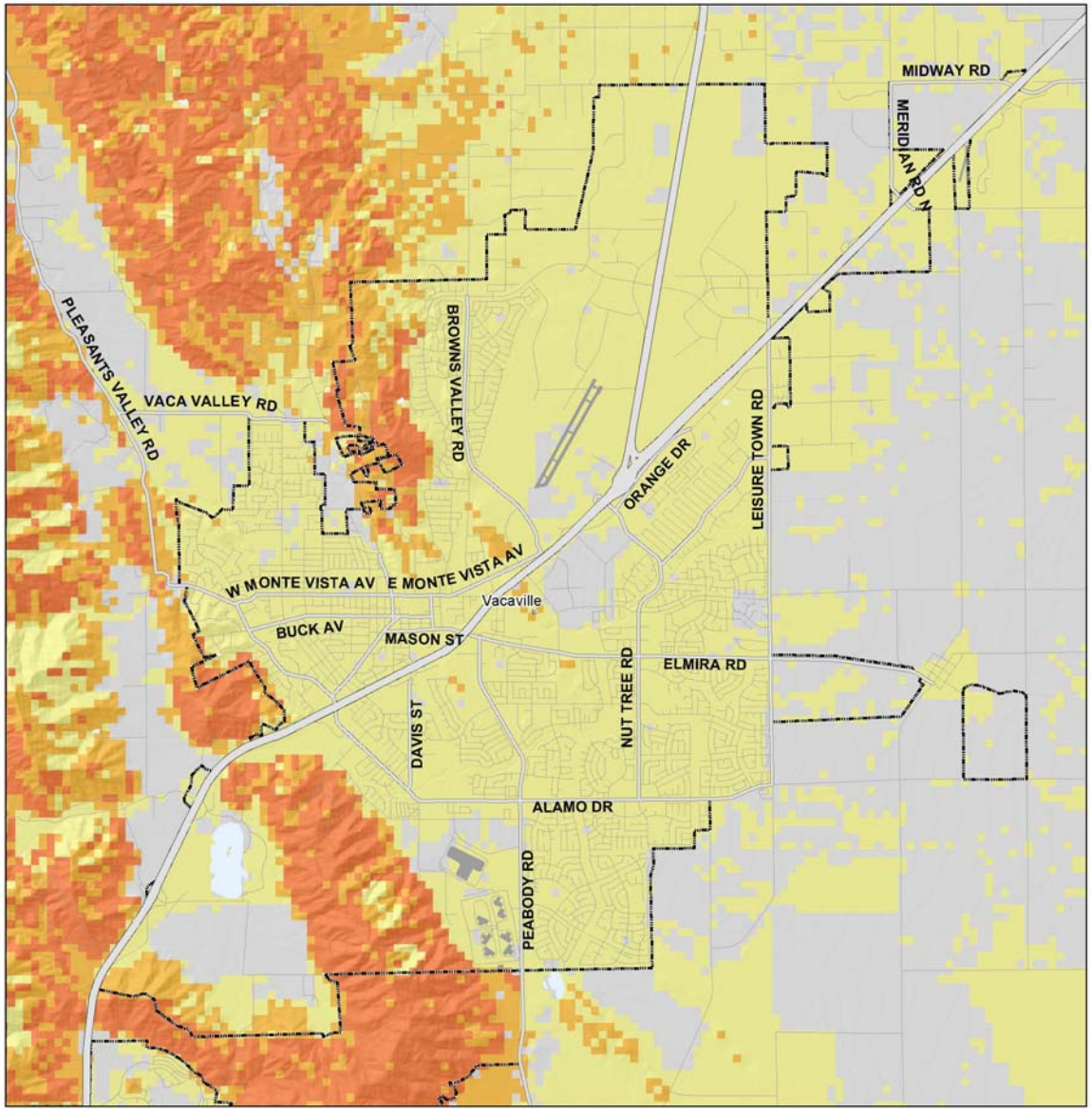
This map is intended for planning use only and is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community.

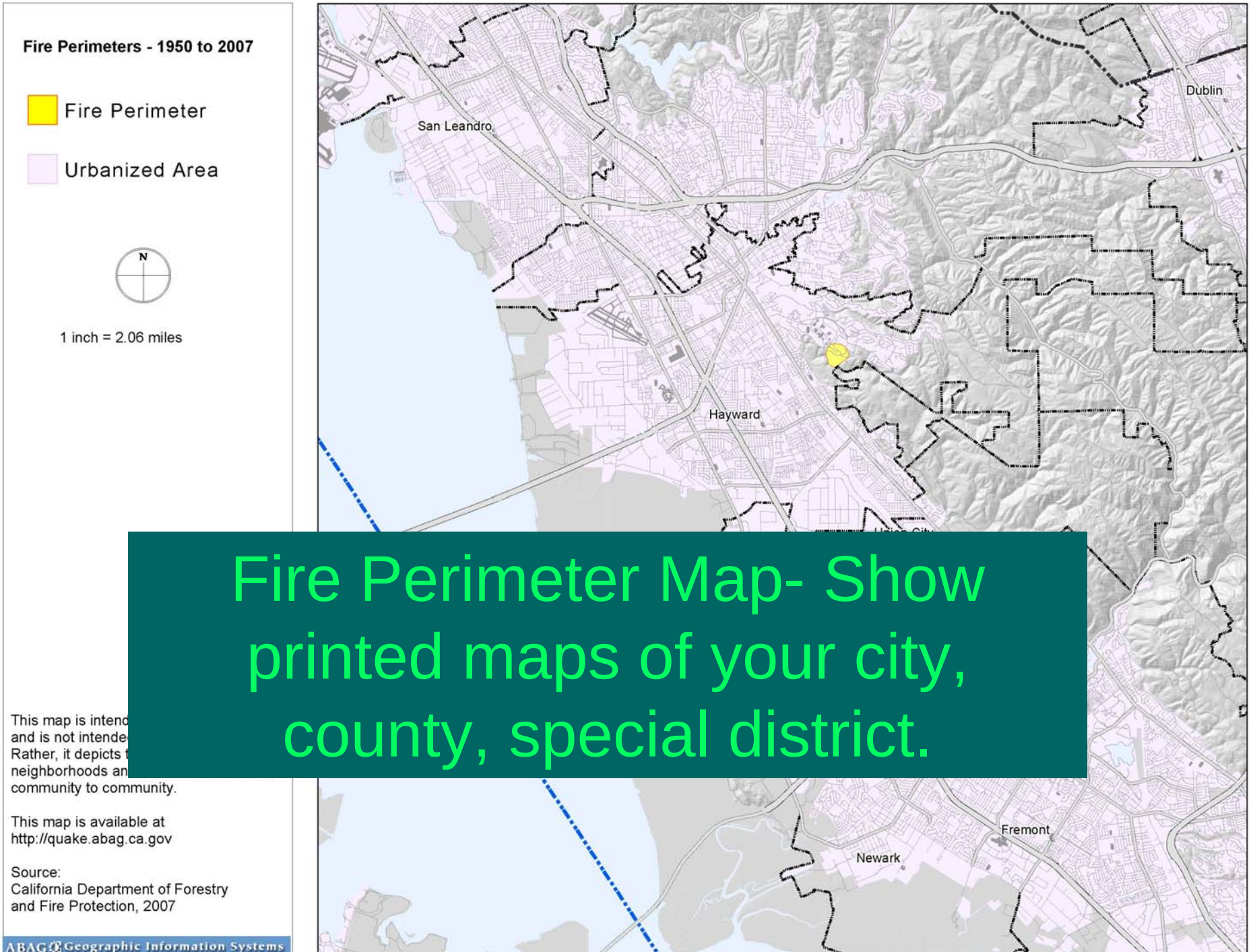
This map is available at http://quake.abag.ca.gov

Combines expected fire frequency with potential fire behavior to create 4 threat classes

Source:
California Department of Forestry and Fire Protection, 2005

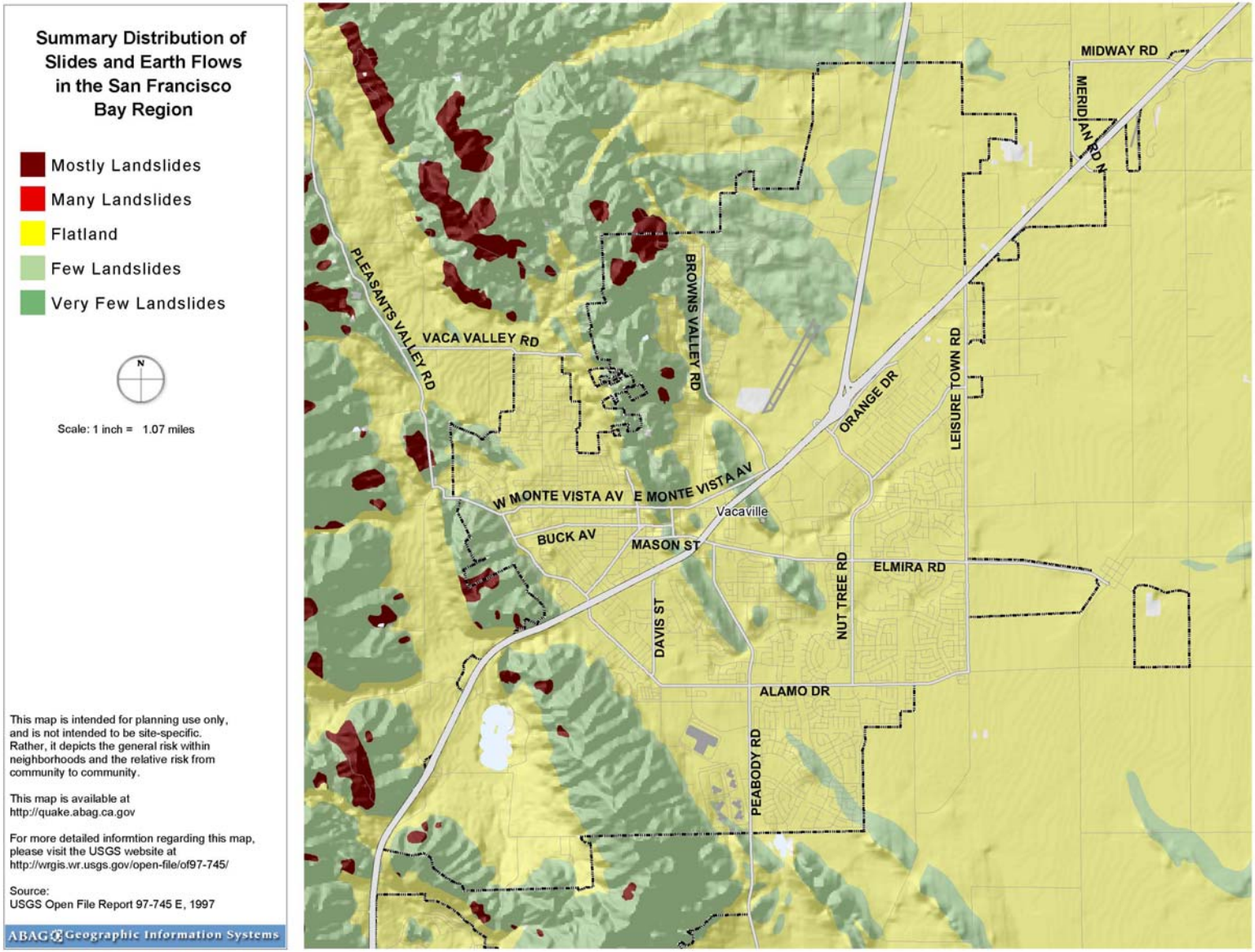
ABAG Geographic Information Systems



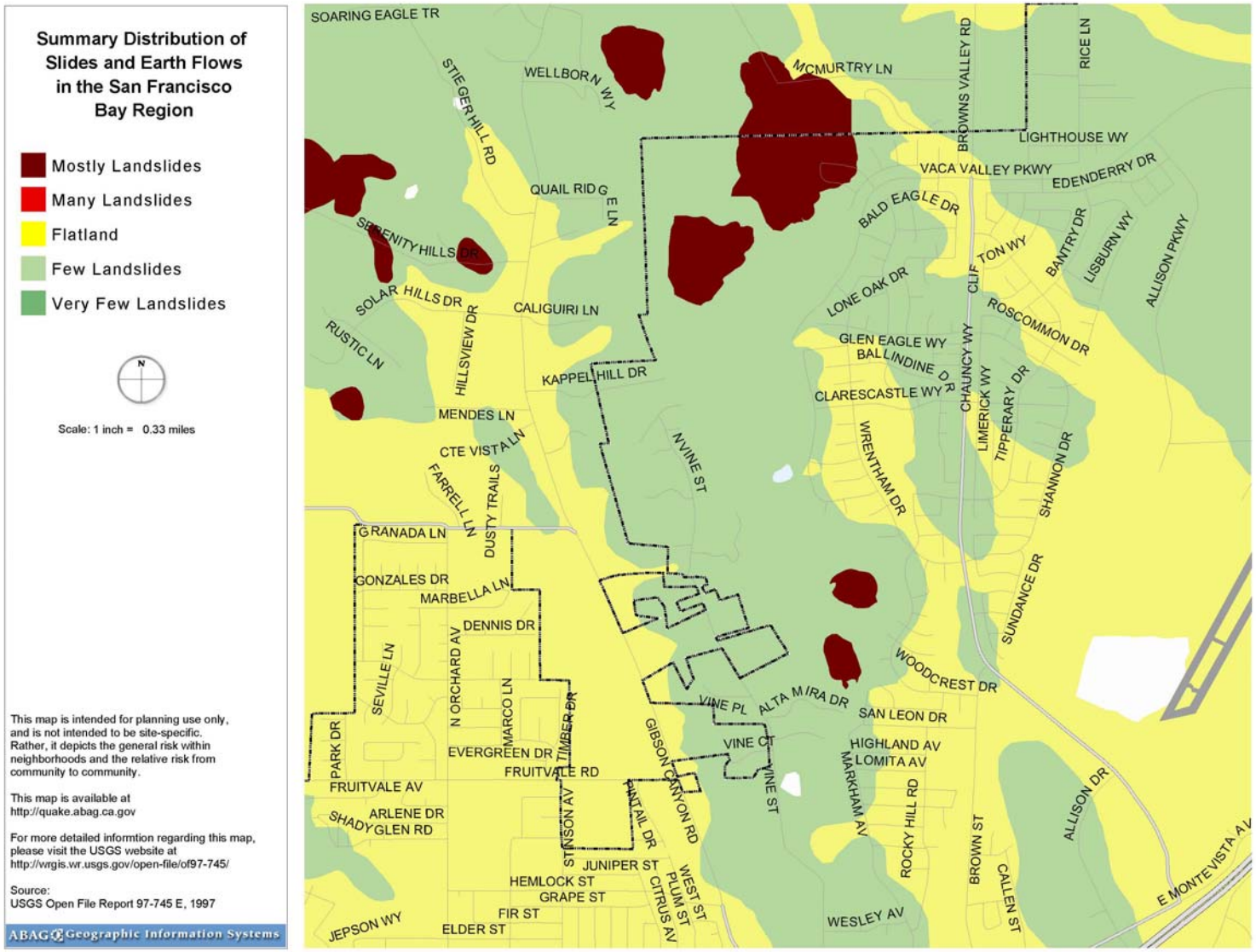


Fire Perimeter Map- Show printed maps of your city, county, special district.

Landslide Hazards -



Landslide Hazards – Close-up



Regional Priorities

- Cities, counties and special districts worked together at many workshops to build consensus on **regional** mitigation priorities.
- The regional **priorities can be changed** (or accepted) by individual jurisdictions
- Draft priorities for individual jurisdiction subject to public comment

What is Mitigation?

- Actions taken to **reduce or eliminate** the impacts of future disasters
- Mitigation is **NOT** increasing emergency response capability

Organization of Strategies

1. **Infrastructure** (critical lifeline facilities)
2. **Health** (more than just hospitals)
3. **Housing**
4. **Economy** (private business)
5. **Government Services**
6. **Education** (school districts and counties)
7. **Environment** (including climate change)
8. **Land Use**

Setting Priorities

- **Existing Program-** Doing this already, no additional money needed
- **Existing Program, under funded-** Doing this already, but need additional money
- **High-** seeking funding
- **Moderate-** if money fell off trees
- **Under Study**
- **Not Applicable**
- **Not Yet Considered**

Where can I find more information or comment on full list of priorities??

http://quake.abag.ca.gov/mitigation

Link to posted strategies on city website