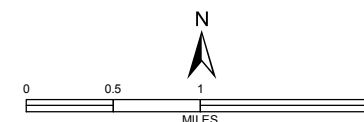


Appendix C

Figures

San Francisco Hazard Mitigation Plan

Location Map



Data Source: SFGIS Data Library 2013

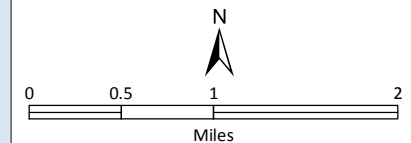


Copyright: ©2013 Esri, DeLorme, NAVTEQ

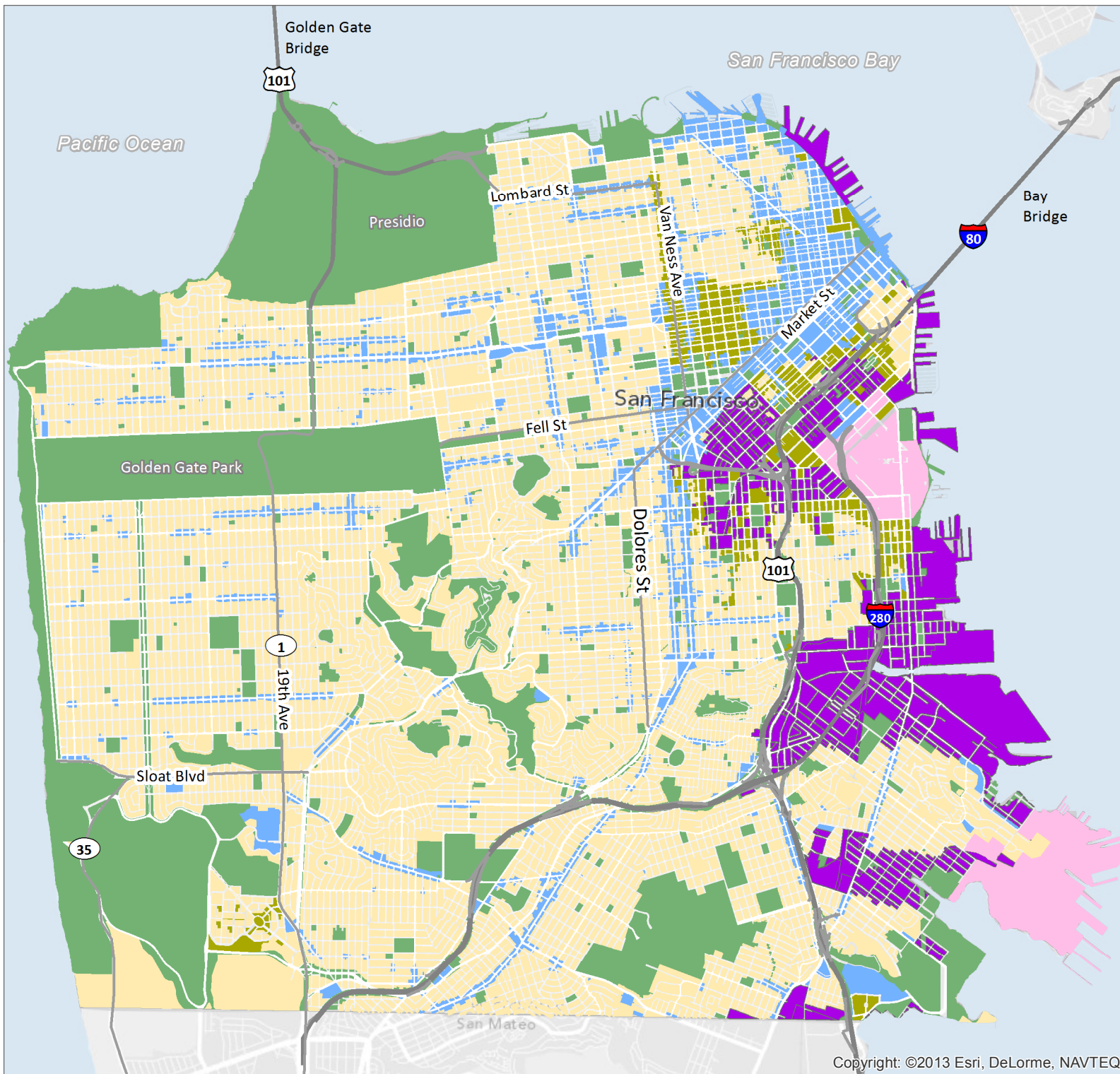
Zoning Use Districts

- Commercial
- Industrial
- Mixed Use
- Public Use
- Residential
- Redevelopment Agency

This figure shows a simplified version of the Zoning Maps of San Francisco. The Zoning Use Districts included in this figure are Commercial Districts, Industrial Districts, Mixed Use Districts, Residential Districts, Public Use Districts, and Redevelopment Agency Districts.

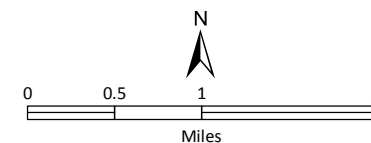
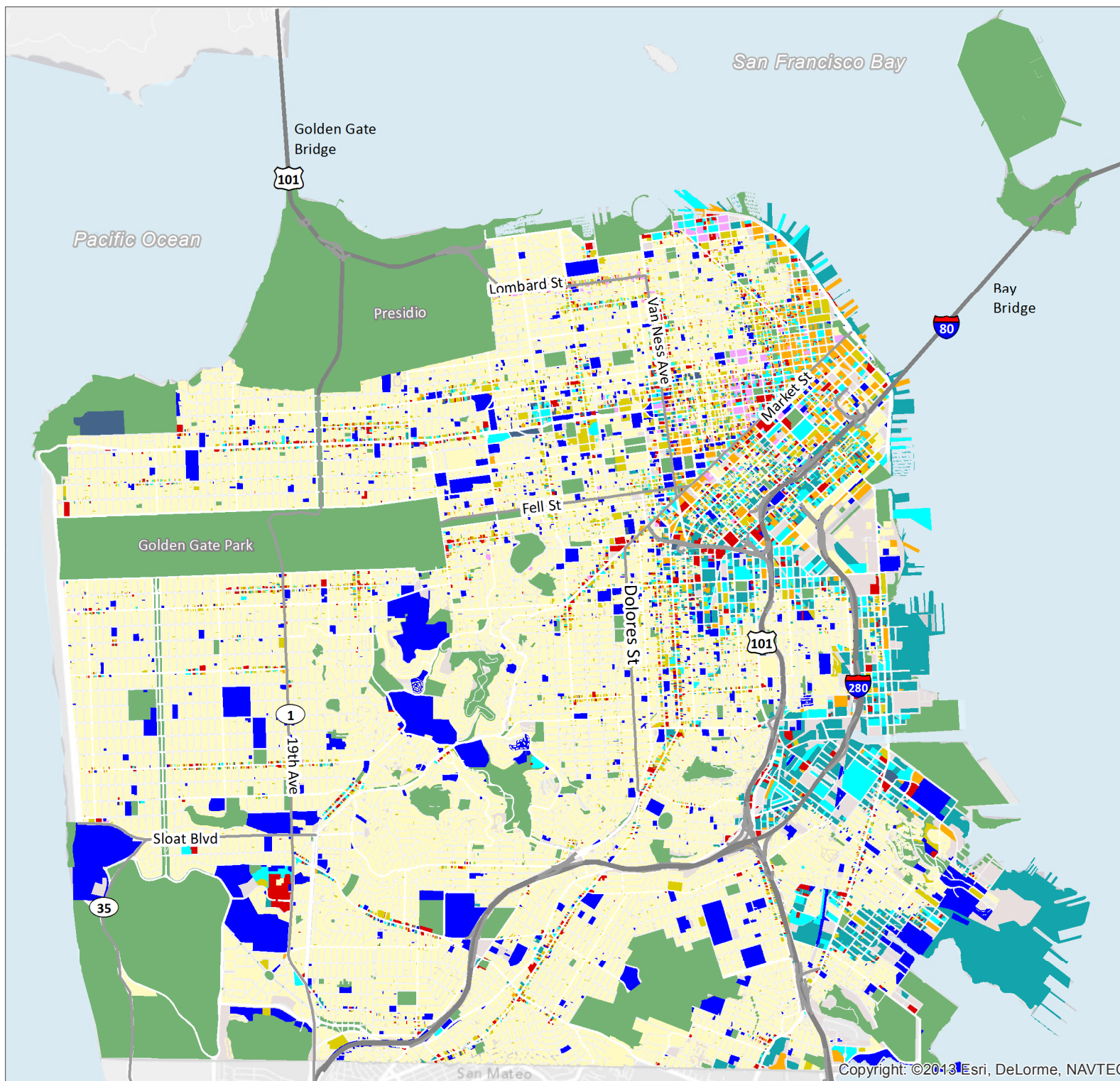


Data Source: SFGIS Data Library, 2013



Land Use

- Cultural/Institutional/Educational
- MED
- Office
- Mixed Use
- Residential Mixed Use
- Production/Distribution/Repair
- Retail/Entertainment
- Residential
- Visitor
- Vacant
- Right of Way
- Open Space
- Missing Data

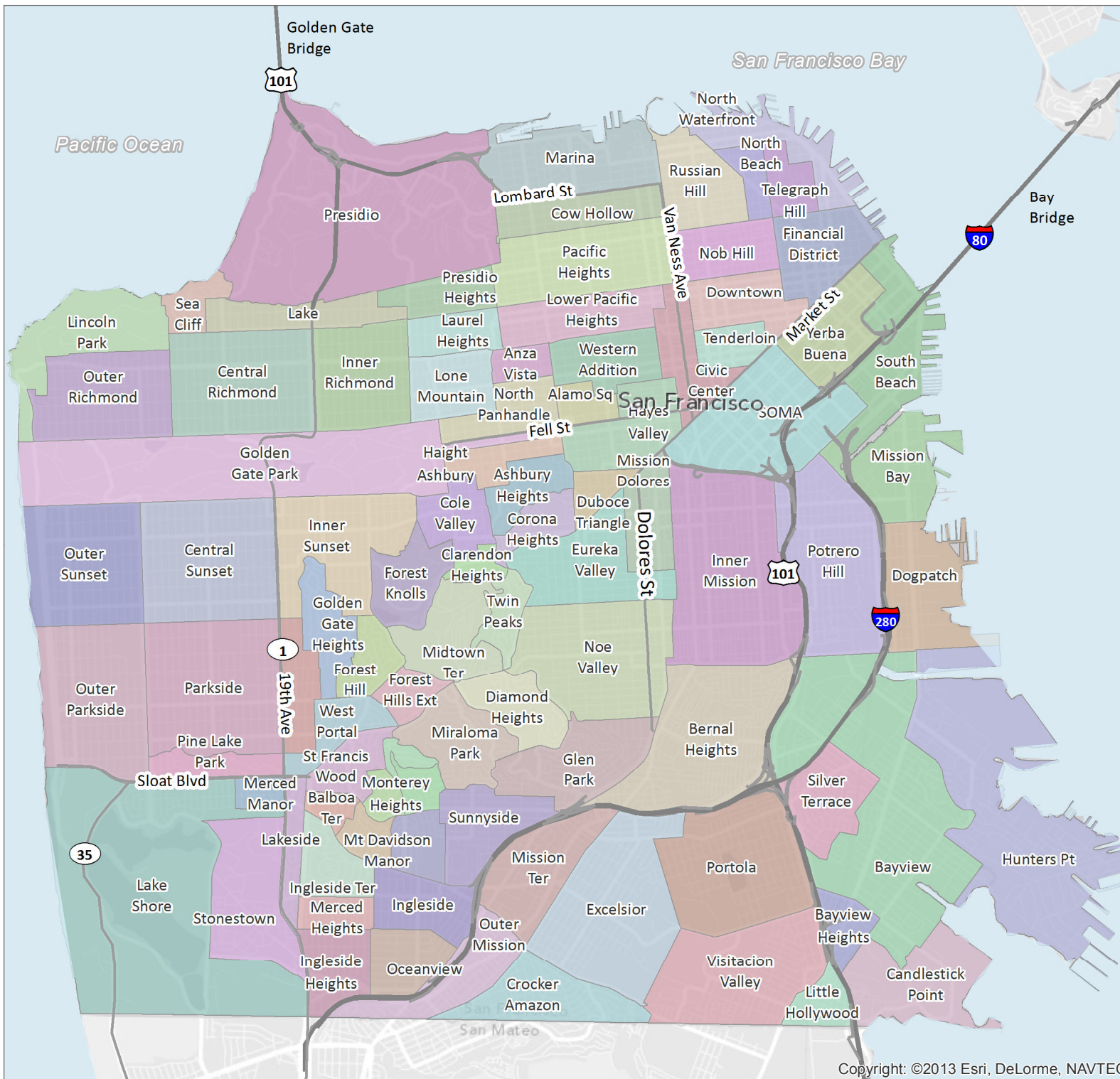


Data Source: SFGIS Data Library 2013; Land Use 2008

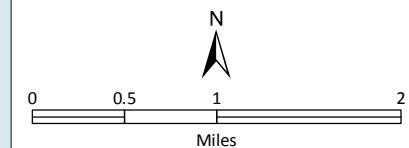


San Francisco Hazard Mitigation Plan

Realtor Neighborhoods



This map displays San Francisco neighborhoods as designated by the San Francisco Association of Realtors (SFAR).



Data Source: SFGIS Data Library, 2013



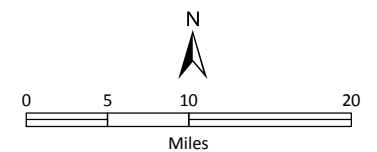
Copyright: ©2013 Esri, DeLorme, NAVTEQ

Earthquake Epicenters

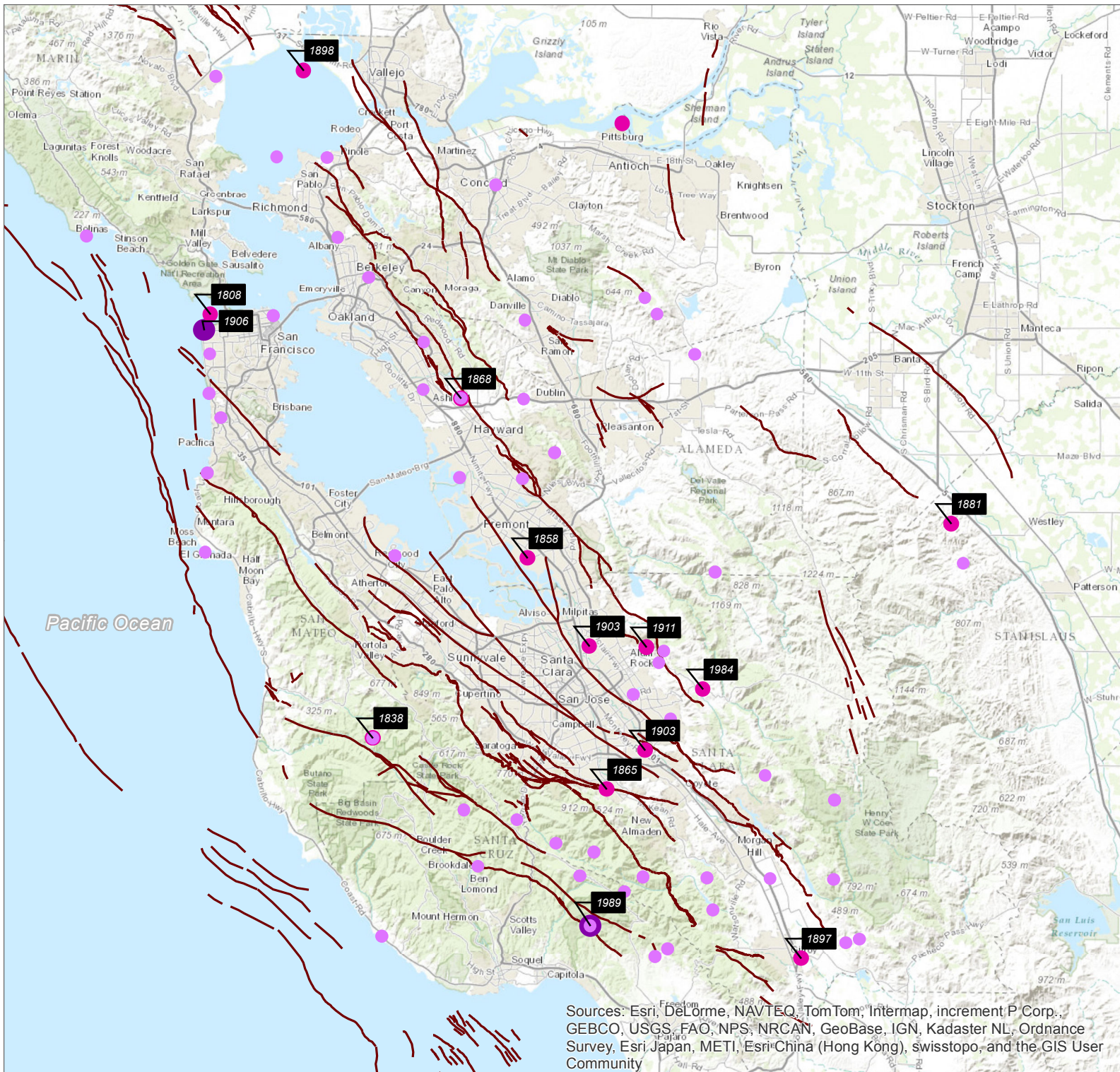
Magnitude

- Between 5.0 and 6.0
- Between 6.0 and 7.0
- Greater than 7.0
- Bay Area Fault Lines

This figure shows historic earthquake epicenter locations. URS Seismic group developed a historic database using information from the Decade of North American Geology Catalog, The Northern California Seismic Network, California Geological Survey, University of California Berkeley, USGS NEIC, Historical locations from Stover and Coffman, and various other sources.



Data Source: SFGIS Data Library 2013; CGS, 2012; Historical Seismicity



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

San Francisco Hazard Mitigation Plan

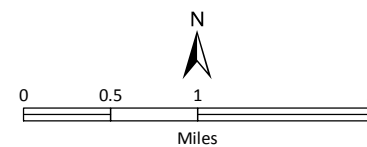
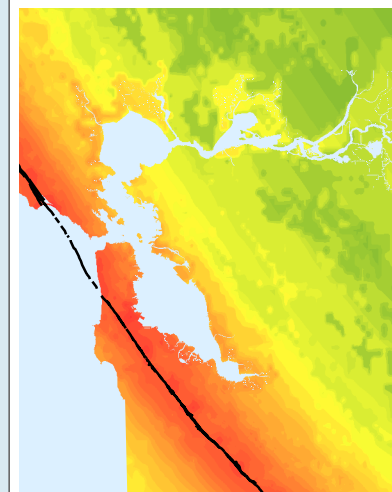
Shaking Intensity Areas
Magnitude 7.9 Earthquake
San Andreas Fault

Shaking Intensity

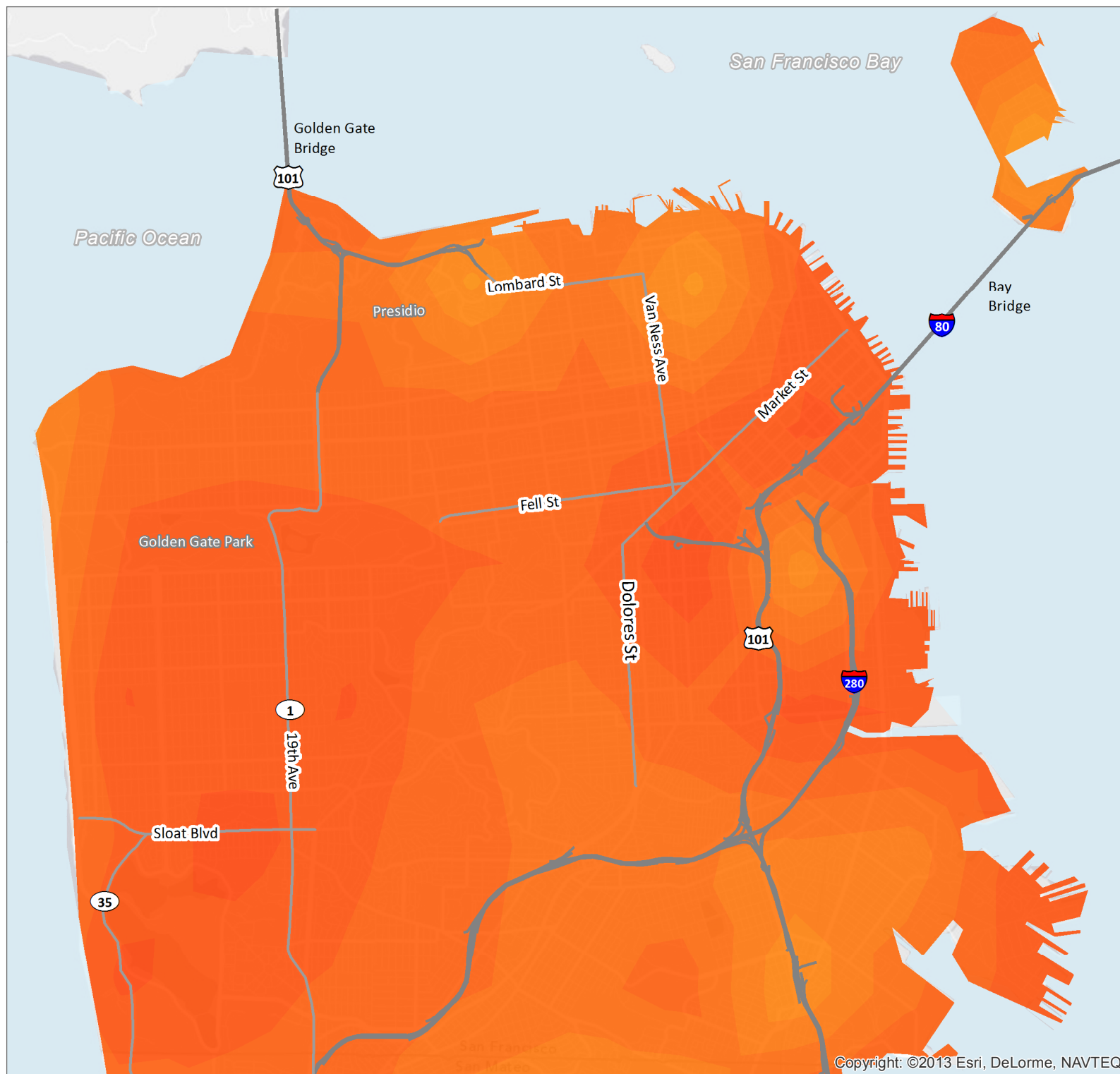
Modified Mercalli Intensity



— San Andreas fault zone



Data Source: SFGIS Data Library 2013; ABAG 2003



San Francisco Hazard Mitigation Plan

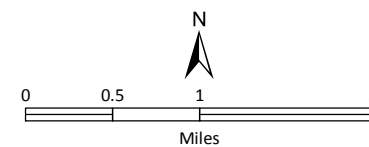
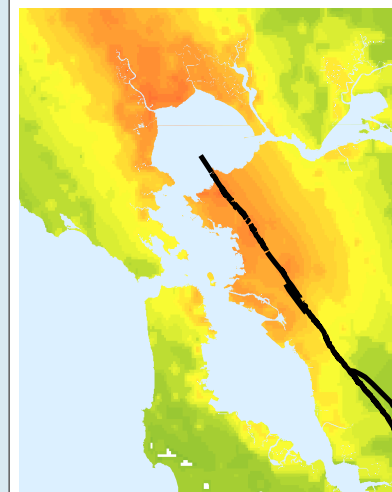
Shaking Intensity Areas
Magnitude 6.9 Earthquake
Hayward Fault

Shaking Intensity

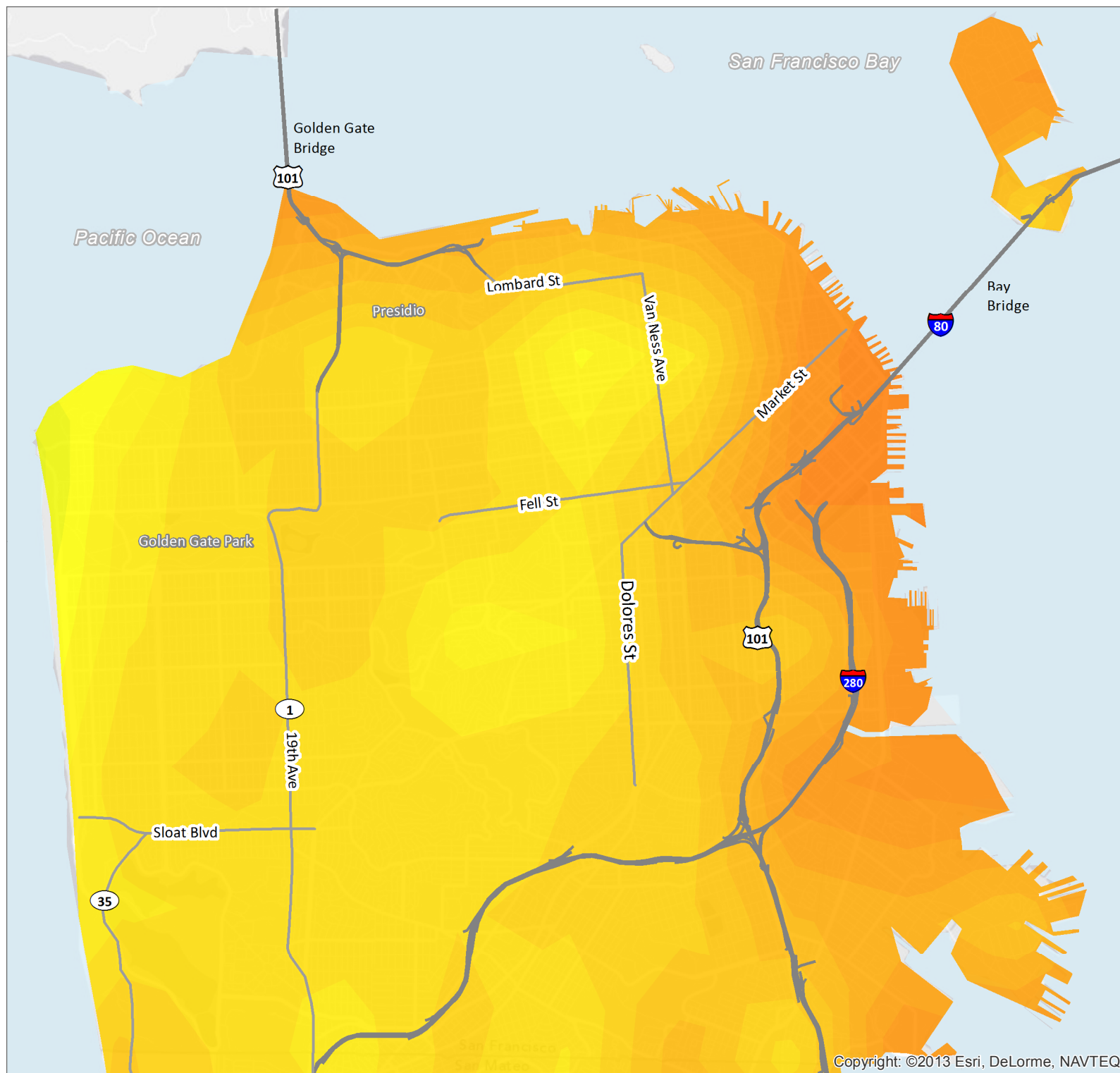
Modified Mercalli Intensity



— Hayward fault zone



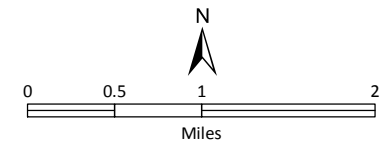
Data Source: SFGIS Data Library 2013; ABAG 2003



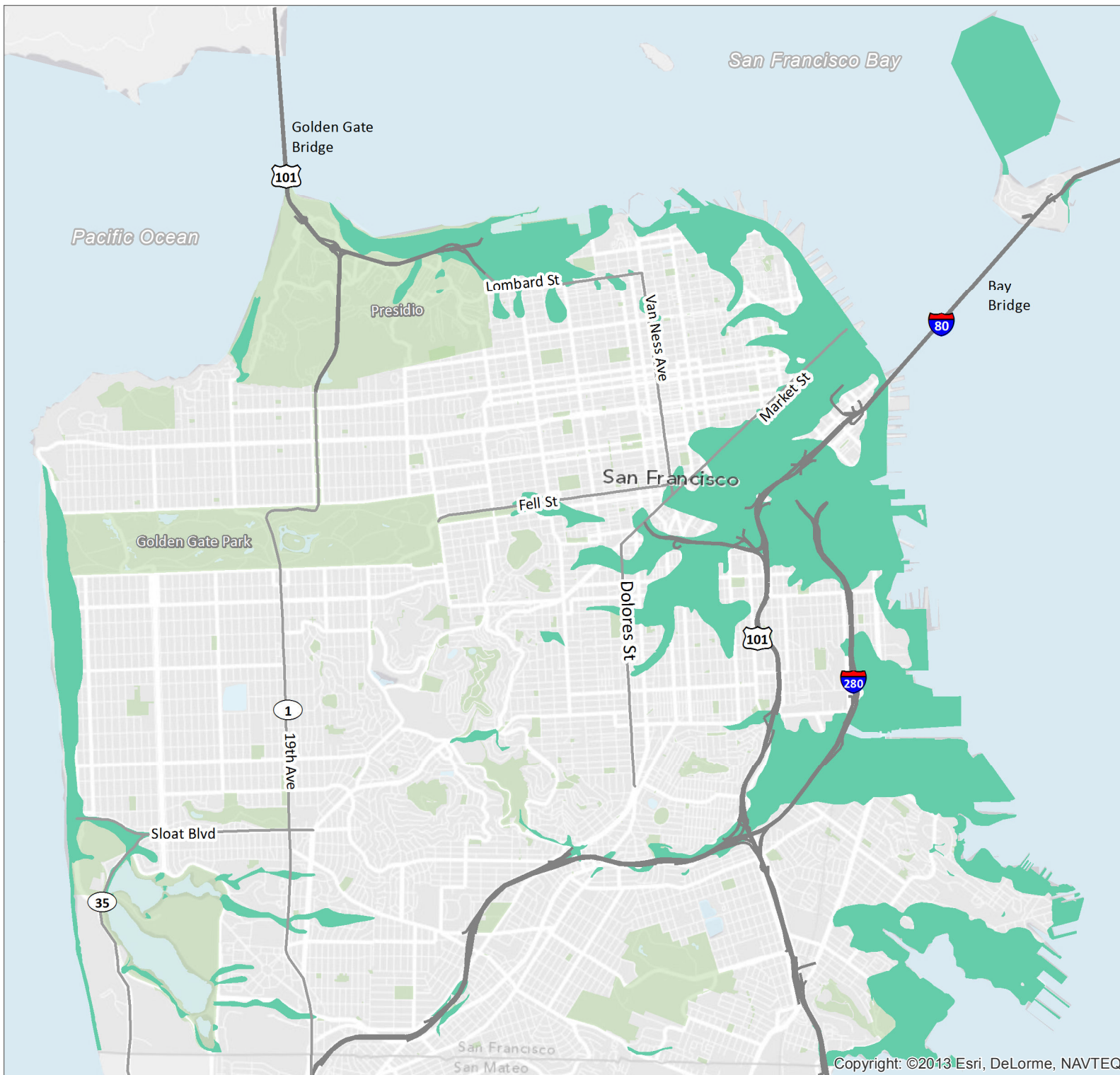
Liquefaction Hazard

 Soil Liquefaction

The figure shows Liquefaction Zones as determined by the Department of Conservation, California Geologic Survey (CGS). Liquefaction is the transformation of a confined layer of sandy or silty water-saturated material into a liquid-like state because of earthquake shaking.



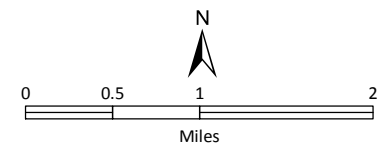
Data Source: SFGIS Data Library, 2013; CGS 2001



Landslide Hazard

 Landslide Hazard Area


The figure shows earthquake-induced Landslide Zones as determined by the Department of Conservation, California Geologic Survey (CGS).



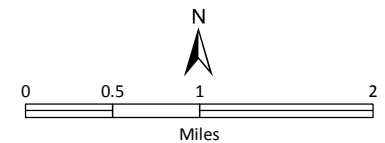
Data Source: SFGIS Data Library 2013; CGS 2001



Tsunami Hazard

 Tsunami Inundation

This map incorporates information from the 2009 California Statewide Tsunami Inundation Maps developed by the California Geologic Survey, Cal OES, and the Tsunami Research Center at the University of Southern California. The map is intended for use by coastal communities in identifying their tsunami hazards, and as a basis for creating tsunami evacuation and emergency response plans. The map illustrates coastal land areas that could become submerged in a tsunami.




Data Source: SFGIS Data Library 2013; Cal OES, CGS, USC 2009



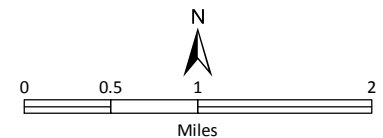
Figure C-10
Reserved

Flood Hazard

 Areas Subject to Inundation During the 1% Annual Chance Flood

Flood hazard data shown on this map have been taken from the "Interim Floodplain Map" developed to support implementation of CCSF's Floodplain Management Ordinance.

The Federal Emergency Management Agency (FEMA) has not published a final Flood Insurance Rate Map (FIRM) for CCSF. In 2007, FEMA issued a preliminary FIRM based on a then-draft flood hazard analysis of San Francisco Bay. FEMA provided the preliminary FIRM to CCSF for review and comment and to provide CCSF with a tool for implementing its Floodplain Management Ordinance. However, FEMA never finalized the FIRM. CCSF used the preliminary FIRM to create the Interim Floodplain Map that is the source of the flood hazard data shown here. Sometime in 2014, FEMA will provide CCSF with a revised preliminary FIRM based on the completed bay analysis and an analysis of the Pacific Ocean shoreline. Once CCSF reviews the revised preliminary FIRM, FEMA will publish a final FIRM to be used for floodplain management and flood insurance purposes.



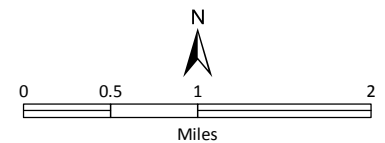
Data Source: SFGIS Data Library 2013;
FEMA - Preliminary FIRM 2008



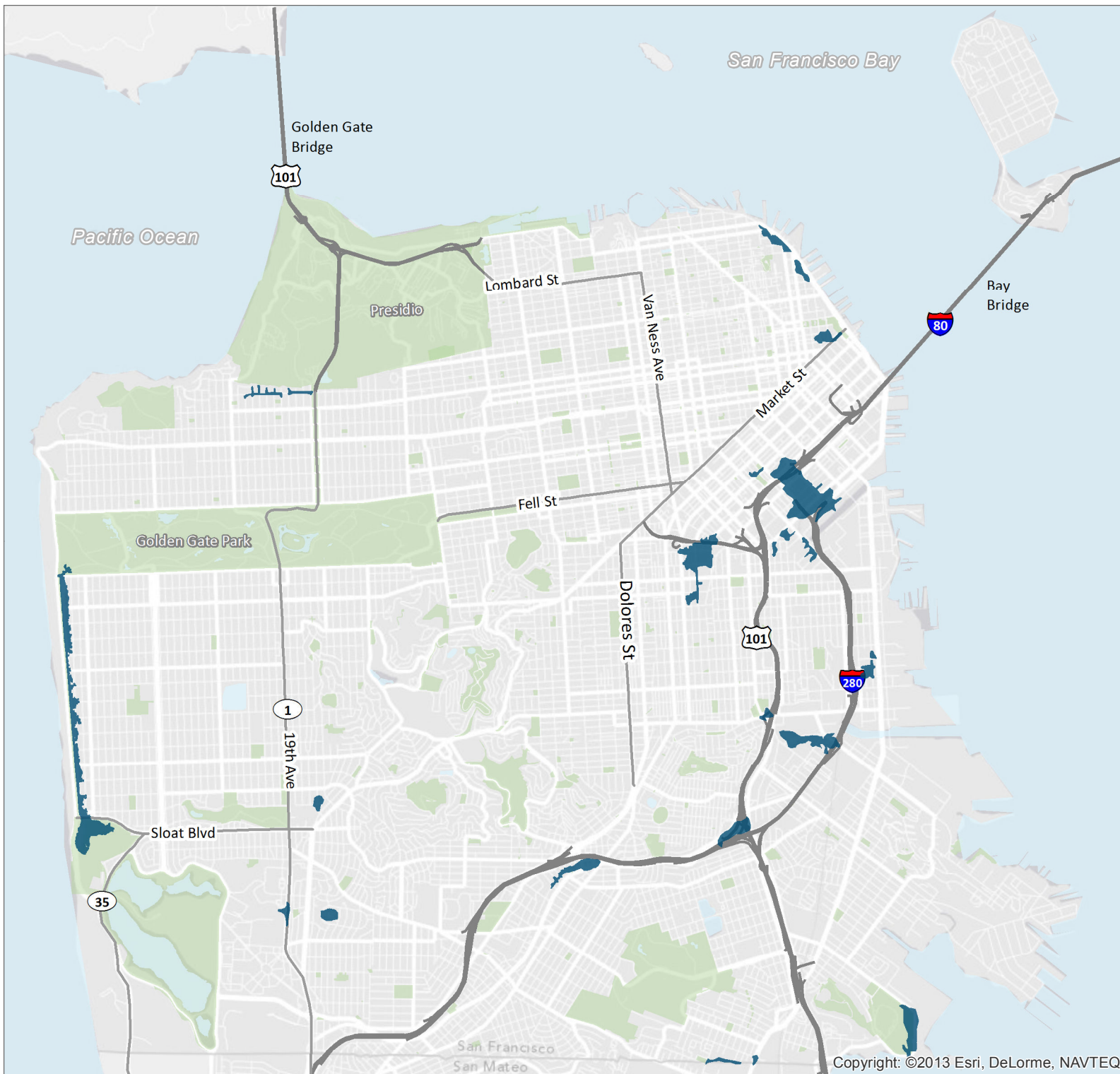
Stormwater Ponding Hazard

 Stormwater Ponding Hazard

This figure shows areas that, under extreme storm conditions, have the potential to experience widespread shallow or localized deep ponding in the roadway because of roadway surface ponding or other open channel flow obstructions.



Data Source: SFGIS Data Library 2013; SFDPW 2008

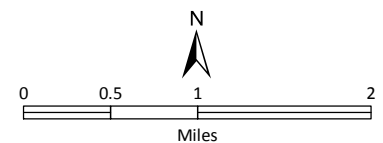


Wildfire Hazard

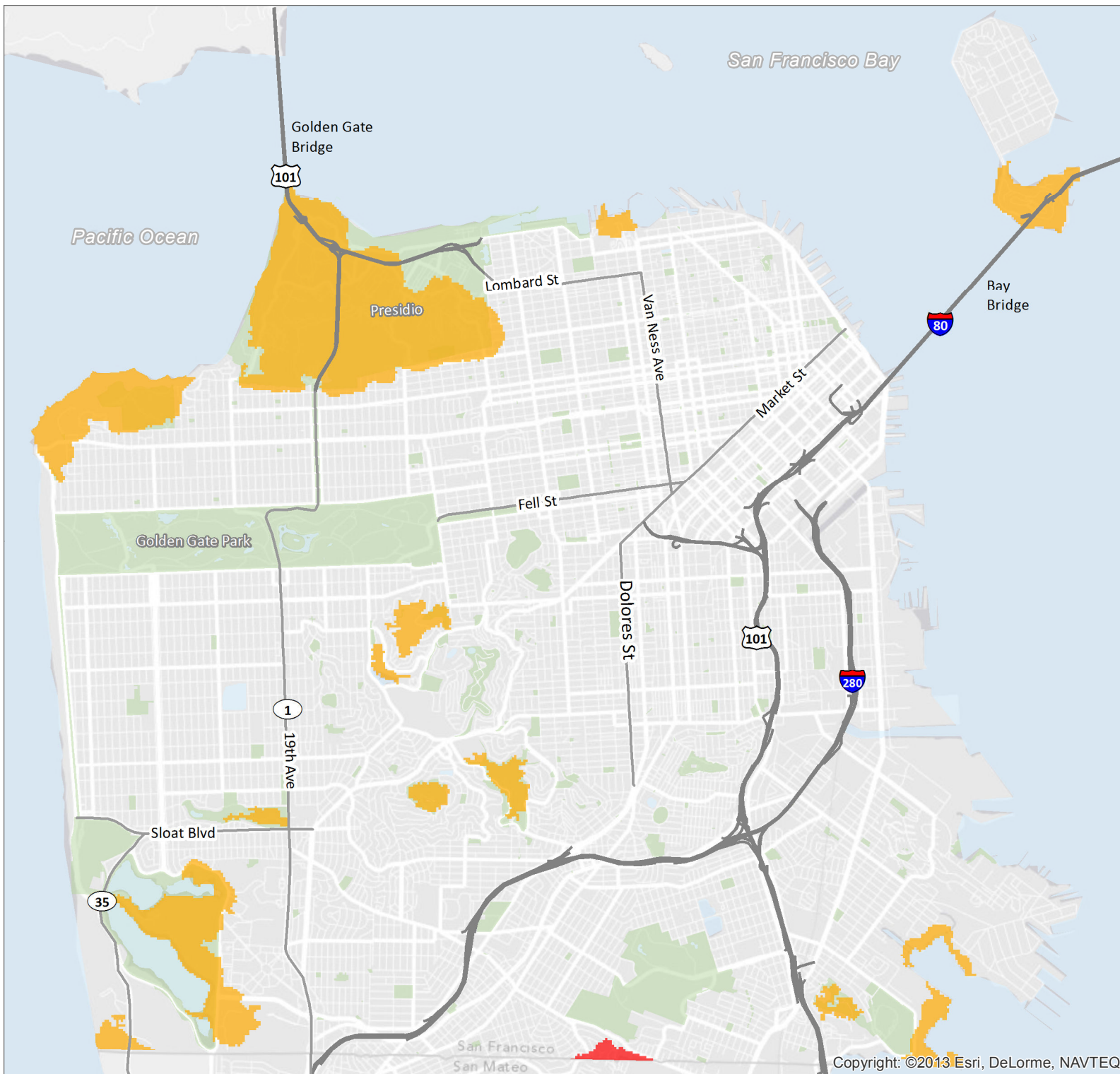


This map shows the fire hazard severity zones within the CCSF Local Responsibility Area (LRA) as determined by the California Department of Forestry and Fire Protection (CAL FIRE). CAL FIRE has determined that CCSF has no "Very High Fire Hazard Severity Zones" within the San Francisco LRA.


The CAL FIRE map was created by its Fire and Resource Assessment Program (FRAP) using data and models describing development patterns, potential fuels over a 30- to 50-year time horizon, expected fire behavior, and expected burn probabilities, to quantify the likelihood and nature of vegetation fire exposure to new construction. Details on the project and specific methodology can be found at <http://frap.cdf.ca.gov/projects/hazard/methods.htm>.









Data Source: SFGIS Data Library 2013; CSF FRAP Data 2008



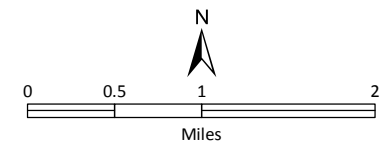
Reservoir Inundation Hazard Area

 Reservoir Inundation Area

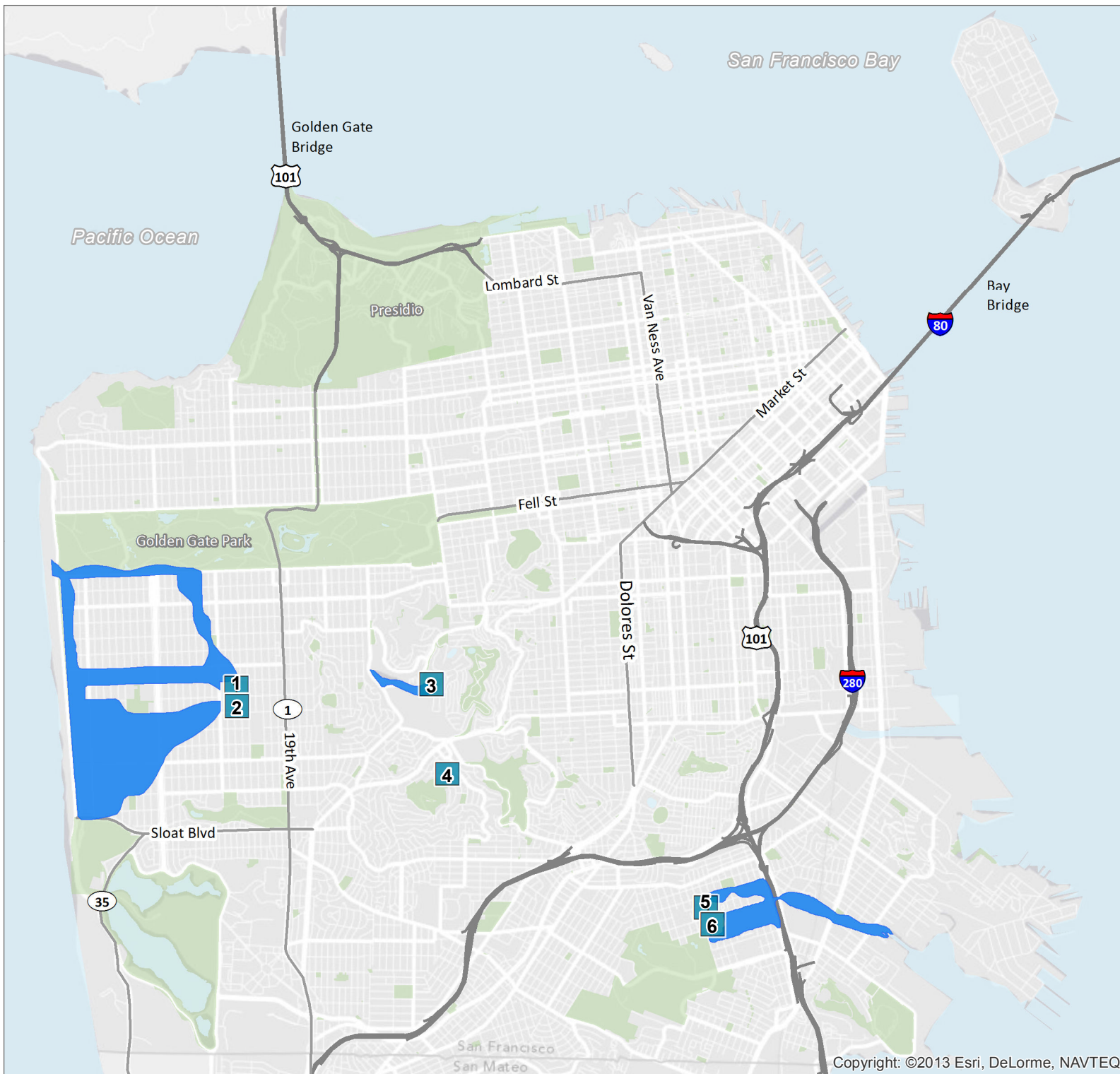
Reservoirs

-  1 Sunset North Basin
-  2 Sunset South Basin
-  3 Sutro Reservoir
-  4 Stanford Heights (Twin Peaks)
-  5 University Mound North Basin
-  6 University Mound South Basin

This map shows areas of potential flooding in the event of sudden or total failure of five of the six state-regulated reservoirs located in CCSF.



Data Source: SFGIS Data Library 2013; SFPUC; CA OES



San Francisco Hazard Mitigation Plan

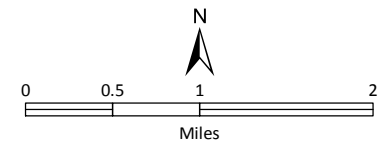
Urban Conflagration Hazard Area

Urban Conflagration Hazard

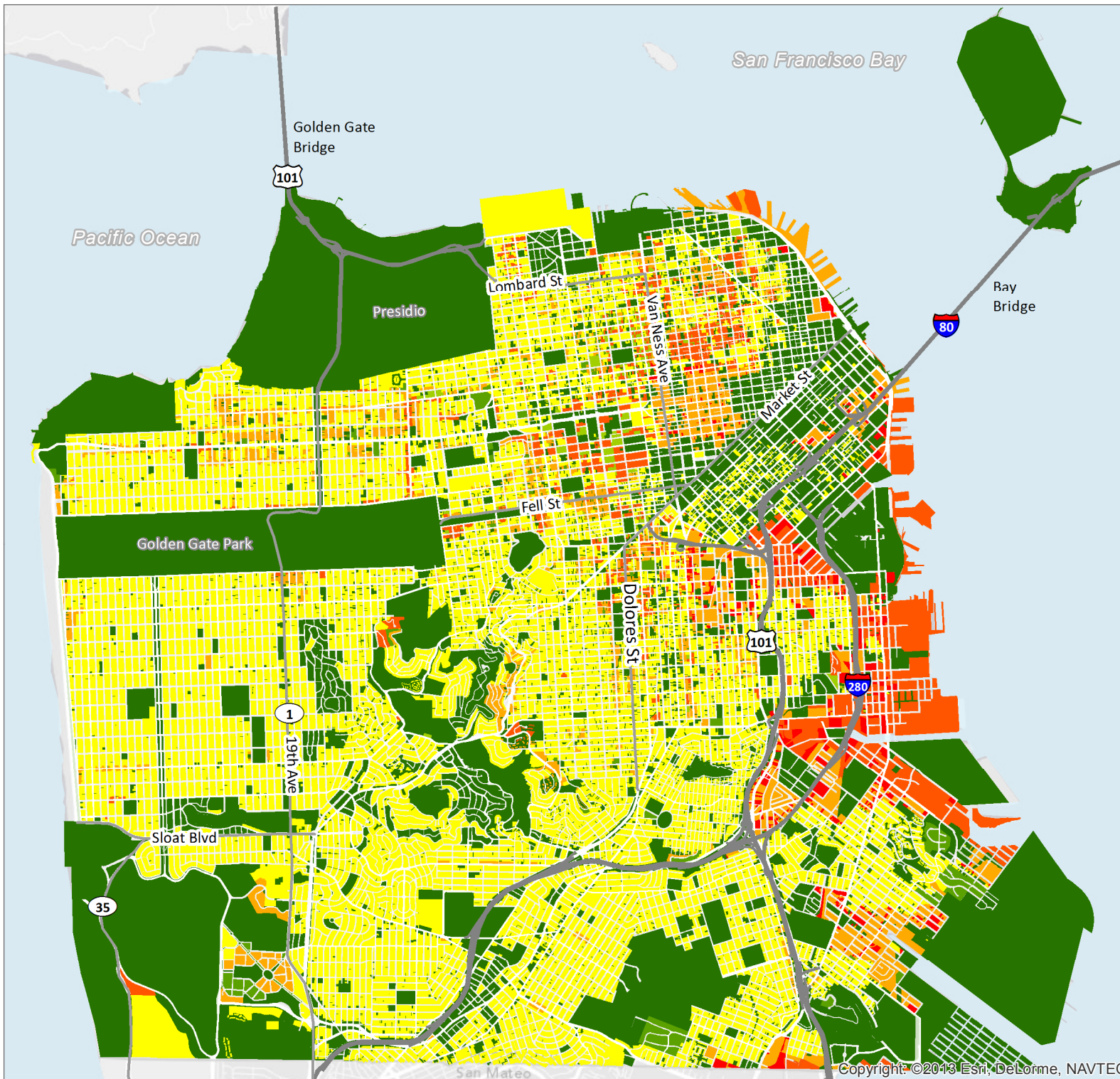
Hazard

- None/No data
- Very low
- Low
- Moderate
- High
- Very high
- Extreme

This figure shows urban conflagration hazard areas for all areas of the city for which parcel data was available. The analysis performed by URS combined building construction material, land use, and structural age. For construction material wood frame structures are assumed to be more vulnerable to conflagration than other construction types. Similarly Commercial and Industrial land use are calculated as a higher conflagration risk. Structural age was taken into account as older buildings were built to different fire code standards.

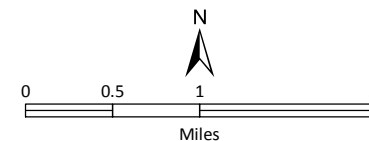
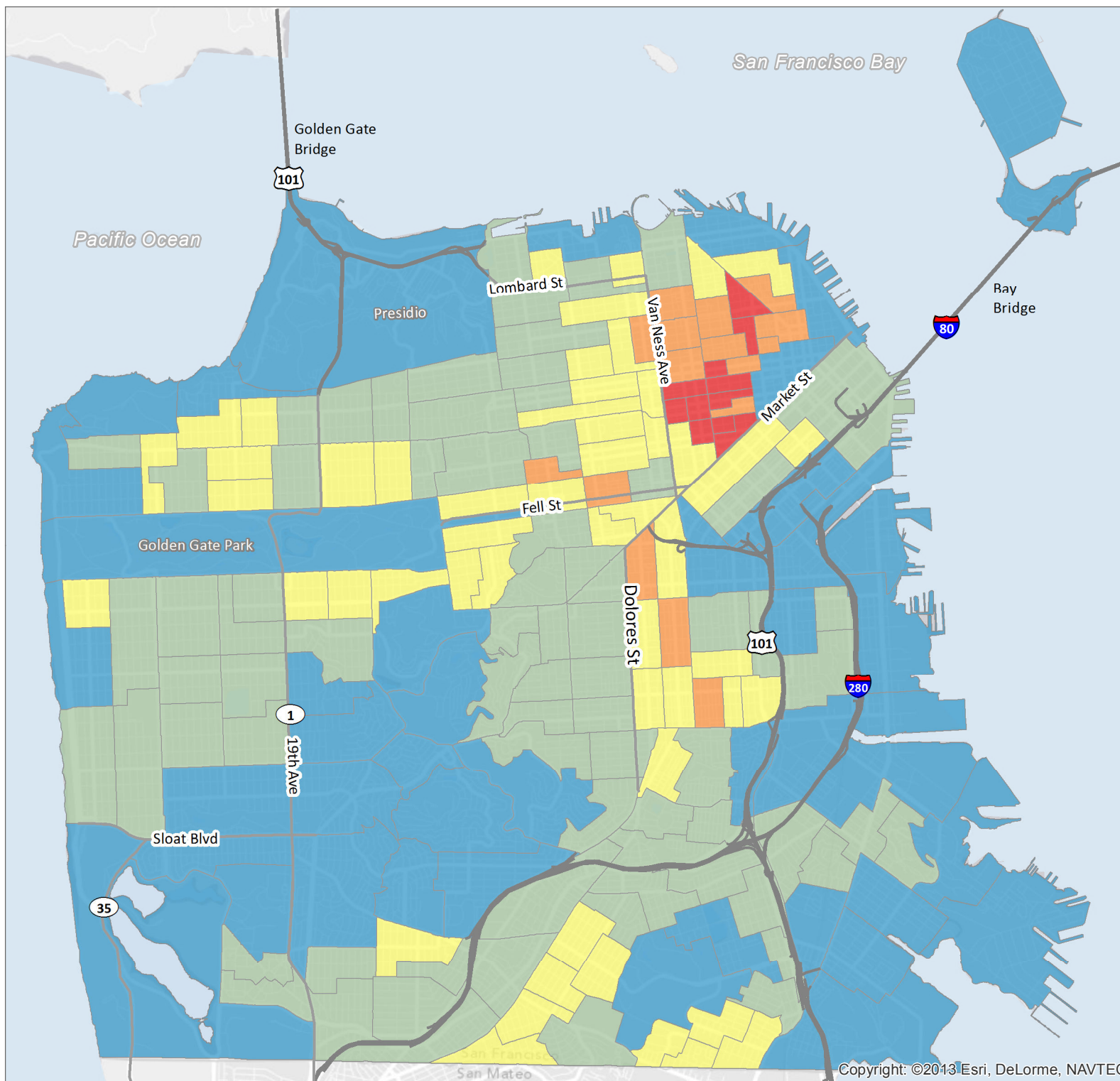
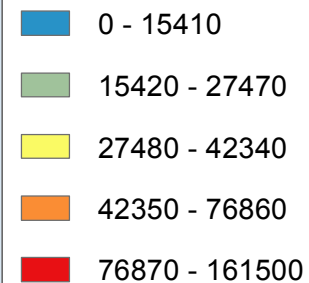


Data Source: SFGIS Data Library 2013; URS 2008



Population Density

(Number of people
per square mile)

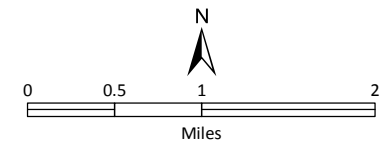
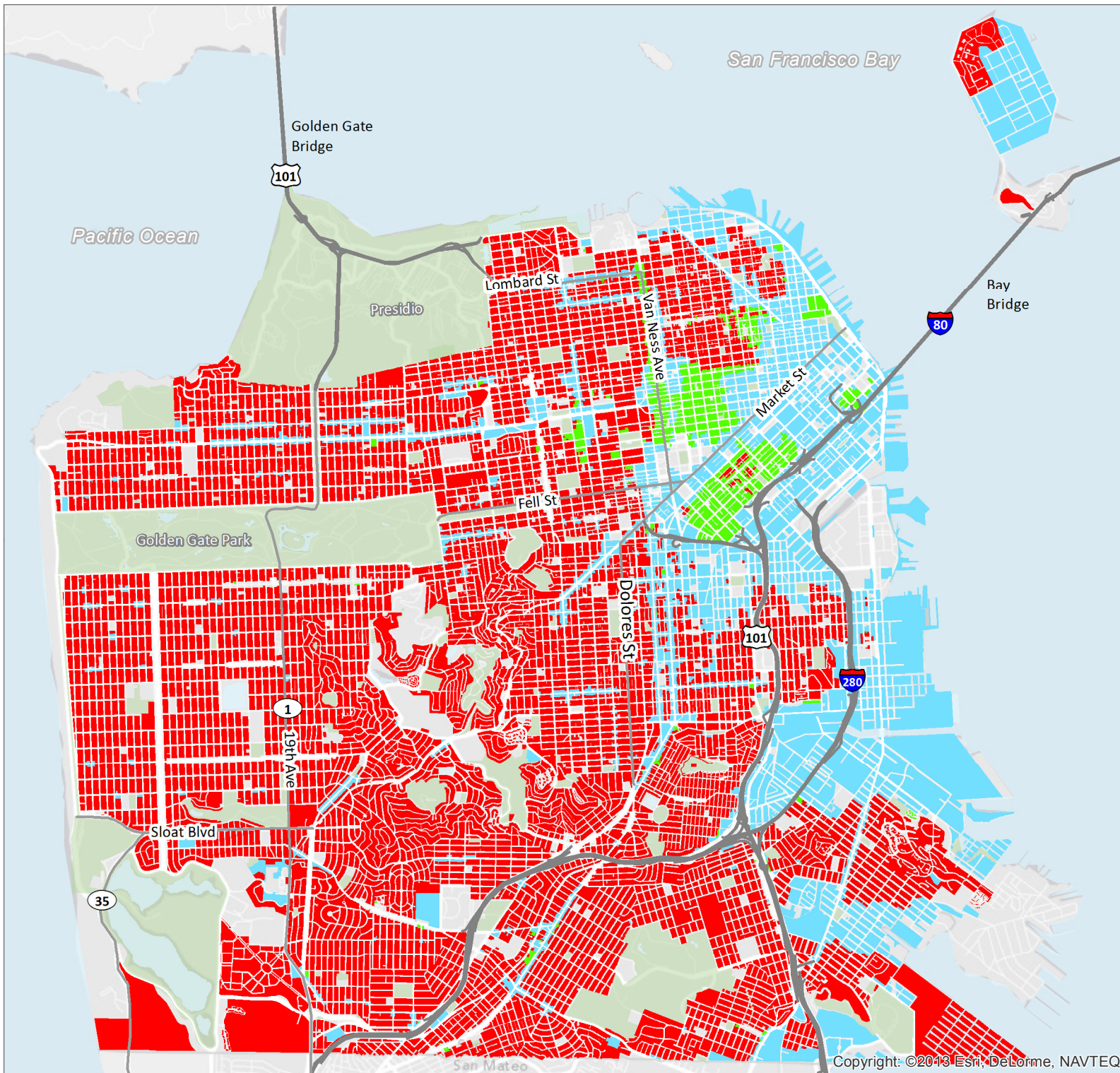


Data Source: SFGIS Data Library 2013; US Census 2010 data from SFGIS.



Building Stock

- Commercial
- Industrial
- Mixed Residential/
Commercial
- Residential

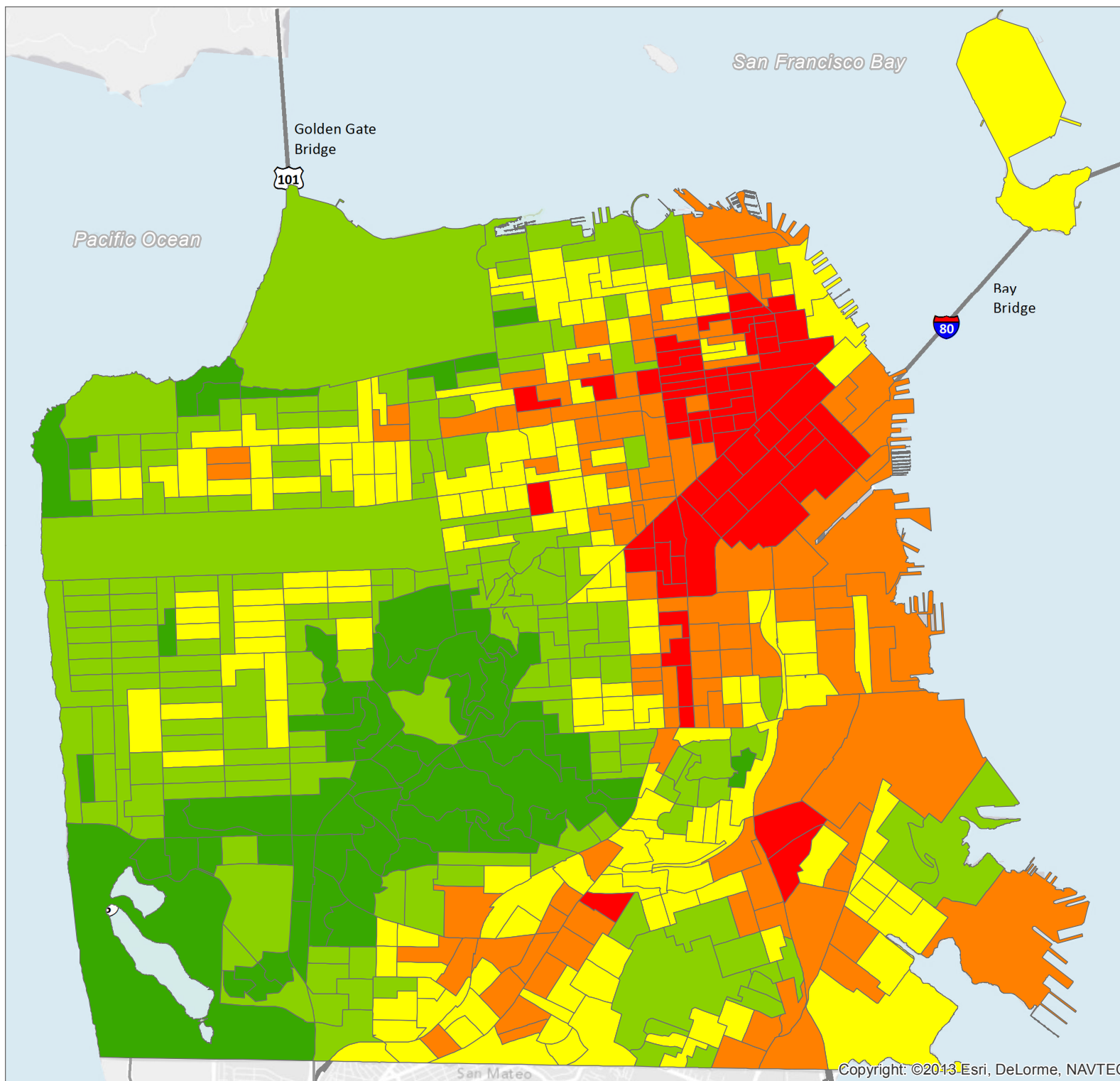
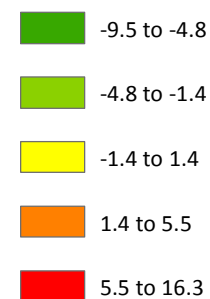


Data Source: SFGIS Data Library 2013; Zoning Data 2008



Heat Vulnerability Index by Census Block Group

Heat Vulnerability Index Score



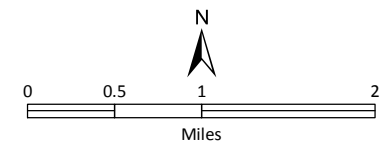
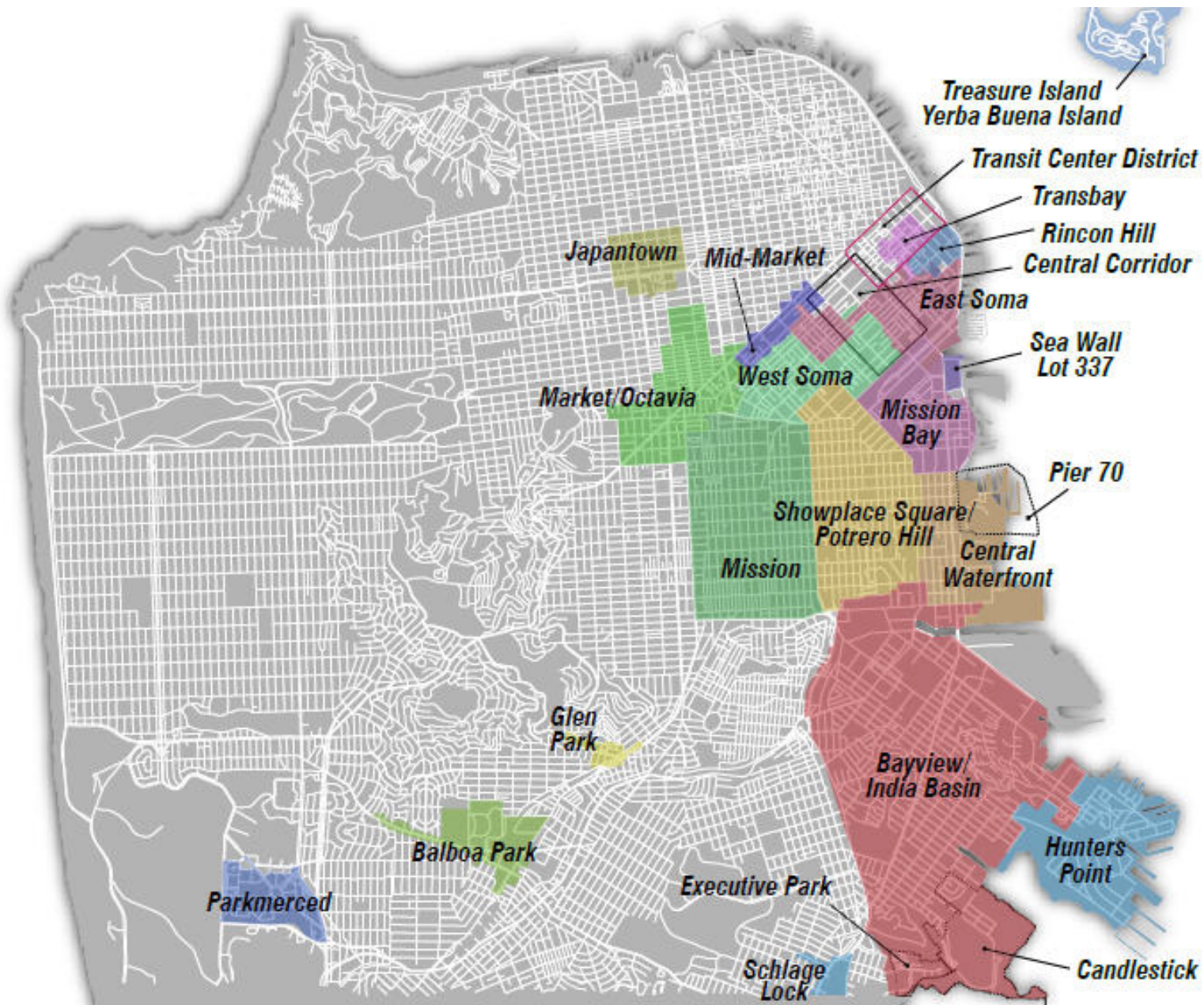
Data Source: SFGIS Data Library 2013; SF Dept. of Public Health 2012



Figure C-19
Reserved

San Francisco Hazard Mitigation Plan

Areas of Future Development:
San Francisco's
Redevelopment Areas



Data Source: SFGIS Data Library 2013; SF City Planning 2013

