

CHAPTER

8

ENVIRONMENTAL
HAZARDS
ELEMENT

A. INTRODUCTION

The Environmental Hazards Element addresses the protection of life and property from natural and manmade hazards, such as earthquakes, flooding, and wildfire. The Element combines two of the state-mandated General Plan Elements—Safety and Noise—into a single chapter. It also addresses emergency preparedness, hazardous materials, and other topics related to the safety and well-being of Albany residents and businesses.

One of the key functions of this Element is to identify areas in Albany that may be inappropriate for certain land uses due to potential risks and hazards. The goals, policies, and actions at the end of this chapter seek to mitigate such hazards through site planning, design, and day to day operating procedures. While some degree of hazard is present on all property in Albany, the City can take steps to reduce risks, minimize losses, and facilitate recovery after a disaster.

B. GEOLOGIC HAZARDS

Albany is located in the seismically active San Francisco Bay Area. The region is susceptible to earthquakes generated by movement along the tectonic plate boundary between the North American and Pacific plates. A complex network of earthquake faults exists in response to the stress between the plates. When enough strain builds up along a fault line, the plates slip and an earthquake occurs.

As indicated on Figure 8-1, there are numerous active fault lines in the vicinity. Most earthquakes are associated with the San Andreas, Hayward, Calaveras, and Concord-Green Valley Faults. The Hayward Fault is located 1.6 miles east of the city and is the closest active fault to Albany. The last major earthquake on this fault was a Magnitude 6.8 event in 1868. The California Division of Mines and Geology considers this fault capable of producing a 7.1 earthquake.

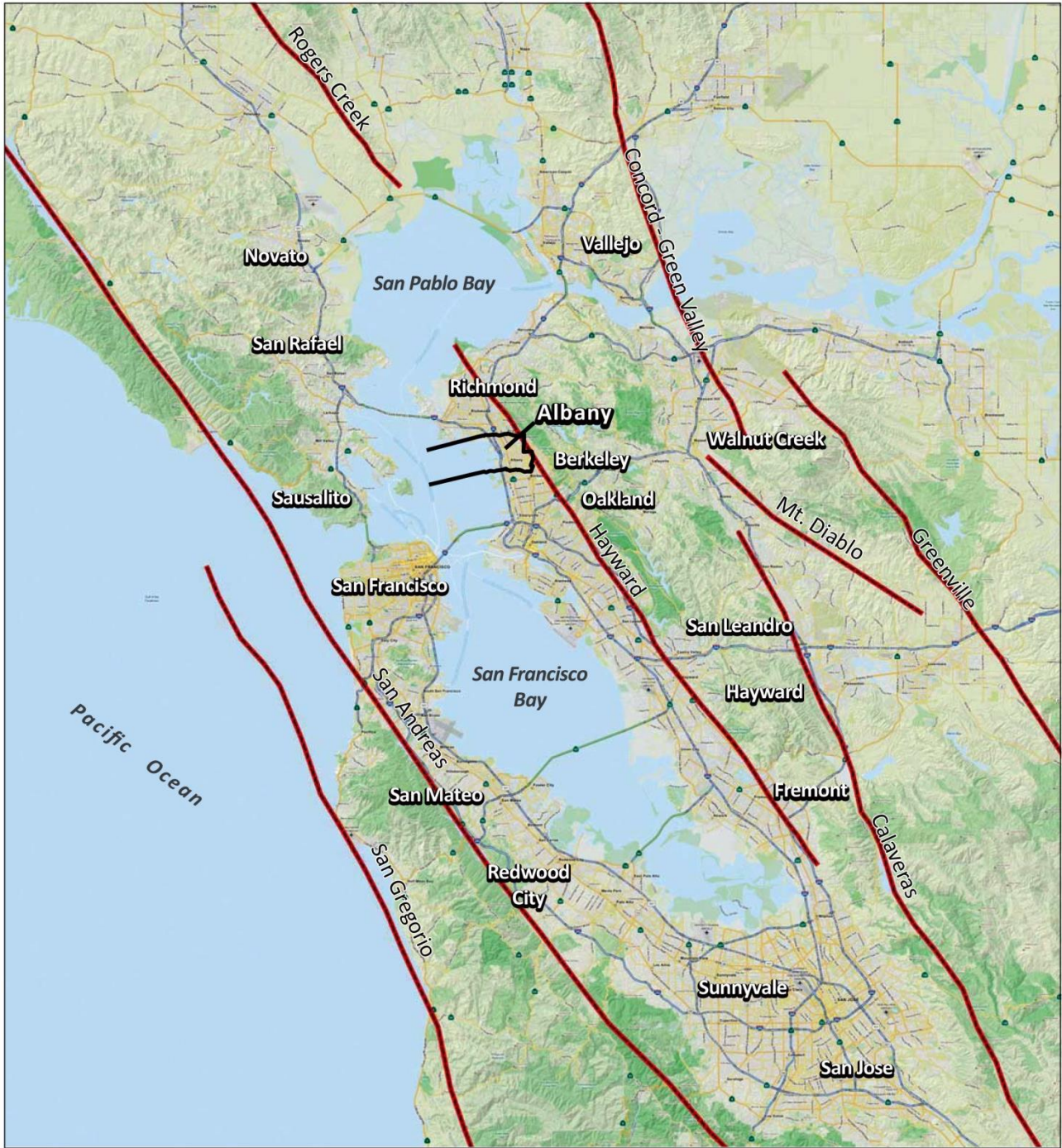
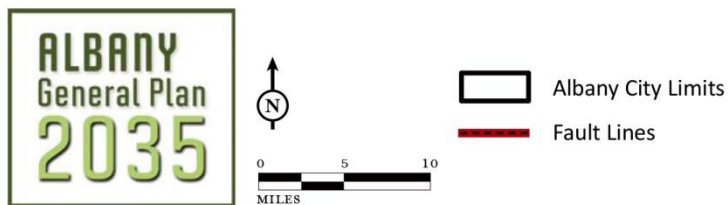


FIGURE 8-1

San Francisco Bay Area Fault Map



SOURCES: MAPQUEST; UNITED STATES GEOLOGICAL SURVEY, 2015.

I:\ABY1301 Albany GP\figures\General Plan\Fig_8-1_SF Bay Area Fault Map.ai (11/3/15)

The San Andreas Fault is located approximately 17 miles west of the city and extends from the Mendocino coast south to the Gulf of California. This fault system produced the catastrophic San Francisco earthquake of 1906 (magnitude 8.2) and was also associated with the Loma Prieta earthquake of 1989 (magnitude 7.1). The Calaveras Fault is located 17 miles southeast of the city and the Concord-Green Valley Fault is located 15 miles to the east. Both of these faults are capable of producing earthquakes of magnitude 6.8-6.9.

In a report published in 2008, the US Geological Survey estimated that there was a 63 percent probability that a magnitude 6.7 or greater earthquake will occur in the Bay Area between 2008 and 2038. The probability was estimated at 21 percent along the San Andreas Fault, 31 percent along the Hayward Fault, and 7 percent along the Calaveras Fault.

Potential Seismic Hazards

Major earthquake hazards include ground shaking, liquefaction, fault rupture, and slope failure.

Ground shaking is the most familiar and often most destructive earthquake hazard. The extent of ground shaking at a given location is a function of soil conditions and distance from the epicenter, as well as the magnitude, depth, and intensity of the quake. The Association of Bay Area Governments (ABAG) indicates a major earthquake on either the San Andreas or Hayward Faults would result in very strong to violent ground shaking in Albany. Very strong to violent shaking would also result from a large event on the Concord-Green Valley Fault.

63%

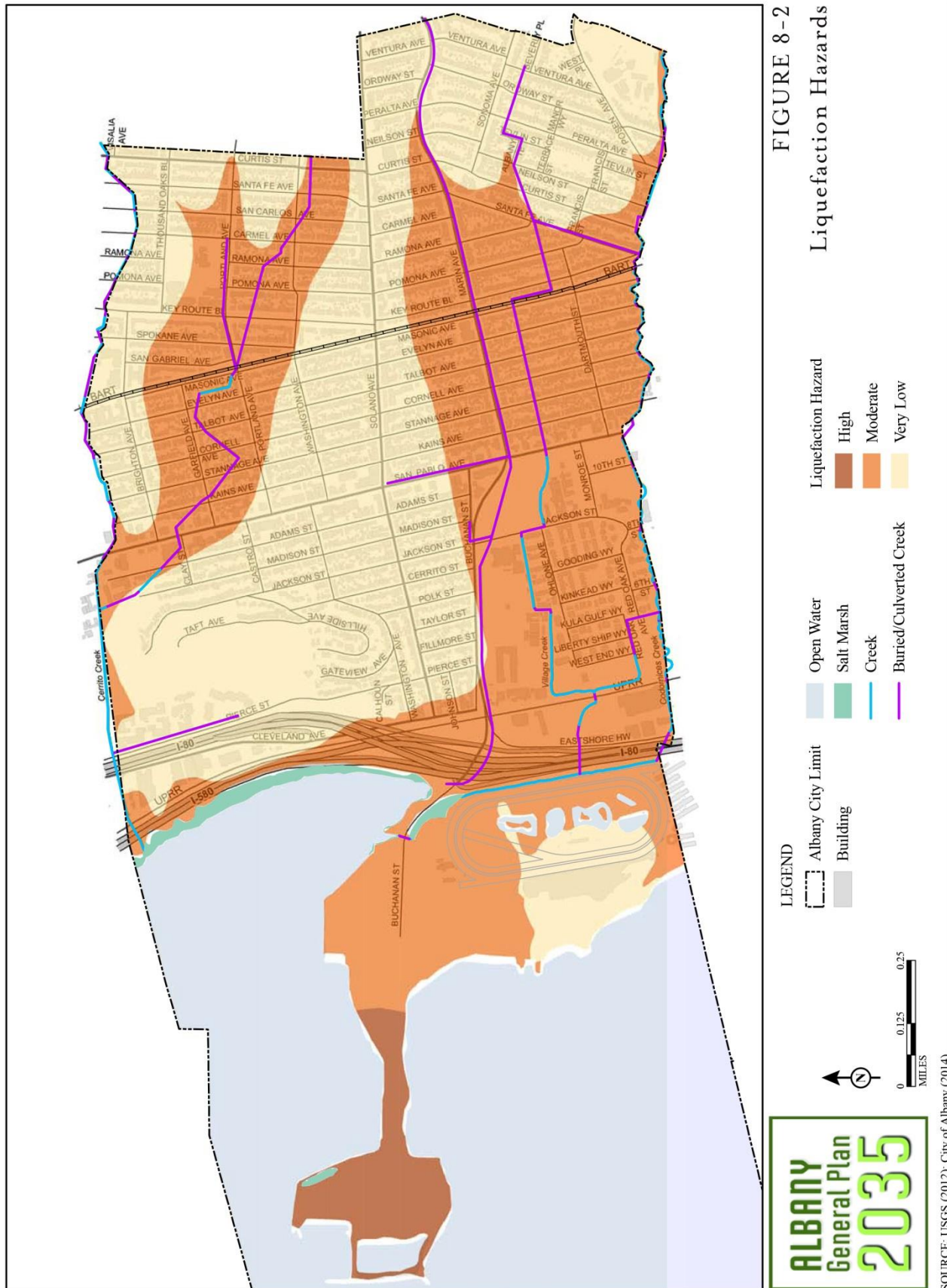
Probability of a magnitude 6.7 earthquake or greater in the Bay Area between 2008 and 2038

Another hazard is **liquefaction**, which is the rapid transformation of loose, fine-grained soil to a fluid-like state during an earthquake. Soils prone to liquefaction are most commonly associated with landfilled areas and locations along streambeds, since these areas often have high water tables and may be underlain by mud. Ground shaking can cause the top layer of soil to lose its strength, which can cause ground failure. This can damage buildings, disrupt roads, and crack or destroy utility lines, including gas mains and water mains. Where the potential for liquefaction is high, site-specific studies are needed for new construction to determine the extent of the hazard and measures to reduce risks.

Liquefaction hazards are shown graphically in Figure 8-2. The Albany waterfront has a very high susceptibility to liquefaction, since it is mostly landfill. Areas adjacent to Codornices Creek, including University Village, also have high liquefaction hazard levels. Liquefaction hazards are moderate in most of the city, and are low in areas underlain by bedrock such as Albany Hill.

Fault rupture occurs when the ground surface is broken due to fault movement during an earthquake. Since there are no known faults within the Albany city limits, the local risk is considered low. In Berkeley, El Cerrito, and other nearby cities bisected by the Hayward Fault, the area extending for several hundred feet on either side of the fault line is subject to special planning and building regulations. These areas are known as Alquist Priolo Fault Hazard Zones or Special Studies Zones. There are no Special Studies Zones in Albany.

Slope failures, including landslides, occur when large masses of soil are displaced by earth movement. This may occur suddenly, or as a slow continuous movement. The primary factors influencing slope failures are the characteristics of the underlying soils, the height and steepness of the slope, rainfall and degree of saturation, and the presence of previous landslide deposits.



Landslides may also be triggered by heavy rain or man-made factors such as earth movement and trenching. Hazard levels in Albany are generally associated with the north and west slopes of Albany Hill, which are protected as open space. For private properties on Albany Hill, site-specific geotechnical analysis and mitigation measures may be required if construction is proposed in the future.

Other Geologic Hazards

Other geologic hazards in Albany include expansive soils, subsidence, differential settlement, dam failure, and tsunamis.

Expansive soils are those that swell when they are wet and shrink when they are dry. As this occurs, the changing volume of the soil may damage foundations, pavement, and infrastructure. Most soils in Albany are classified as moderate to high for shrink-swell potential. California's building and engineering codes have been prepared to compensate for this hazard.

Subsidence refers to the lowering of the land surface. It is usually caused by groundwater pumping and consolidation of the soil as the water content is reduced. A secondary effect of subsidence is increased flooding and damage to utilities as the ground sinks. Subsidence can also affect drainage and sewerage systems in which the flow is gravity driven. The risk of subsidence is greatest in agricultural areas and other areas where groundwater is pumped for farming or domestic use. It is considered to be a relatively low risk in Albany.

Differential settlement occurs when buildings are placed on artificial fill, or straddle the boundary between different subsurface materials (such as bedrock and landfill). Without proper design and construction methods, it can cause damage to buildings over time. Portions of the city that contain non-engineered fill may be susceptible to this hazard.

Dam failure and **tsunamis** are discussed on Page 8-9. The risk level in Albany is low.



Soft-story buildings with “tuck under” parking are vulnerable in a major earthquake.

Mitigating Geologic Hazards

The California Building Code requires that structures for human occupancy be designed and constructed to resist the effects of earthquake motions. The specific requirements for a given site are determined based on the engineering properties and soil types, using a scale ranging from A to F. This information is combined with data on potential ground acceleration rates to arrive at a seismic design category ranging from A to D. The classification of a site and the related calculations must be determined by a qualified professional.

The greatest hazards are associated with older structures, many of which pre-date modern building codes. Certain types of buildings are particularly vulnerable to ground shaking due to their design and construction. For example, unreinforced masonry buildings (URMs) may collapse or be damaged during violent ground shaking. In 1986, California passed legislation requiring cities to inventory their URM buildings and develop a program for their retrofit. There were approximately 50 URMs identified in Albany at the time. In 2004, the City adopted an ordinance requiring the retrofitting of such buildings within three years. Most buildings are now compliant and risk levels have been reduced.

Albany also has a substantial inventory of soft-story buildings. These are apartment buildings typically constructed in the 1950s and 1960s with “tuck under” parking on the ground level, and one or two stories of housing above. The design of such structures, with large openings and few internal walls on the ground floor, and slender columns supporting the weight of the upper floors, can result in inadequate lateral support during an earthquake. Installation of shear walls and bracing can improve the stability of such structures.

Concrete tilt-up buildings also may be at-risk, since they may lack proper ties between roofs or floors and walls and can sustain damage from ground shaking. Such buildings are often found in cities with industrial parks, warehouses, and manufacturing and are not common in Albany.

Most habitable structures in Albany are wood-frame houses built in the 1920s and 1930s. These structures pre-date the seismic requirements of the current building code, and are vulnerable to a variety of earthquake hazards. Common hazards include falling chimneys, toppling water heaters, cracked foundations, and failing cripple walls. Risks can be reduced through foundation bolting, shear wall installation, and basic seismic retrofit measures.



Installation of shear walls on a hillside home can help stabilize the structure during an earthquake.

One of the greatest risks during an earthquake is disruption to roads, bridges, and utilities. Elevated and grade separated crossings may be affected by ground shaking and liquefaction. Utility lines and pipelines may rupture or become unstable. Water tanks and pump stations may fail. Most utilities in Albany have been built with earthquake hazards in mind, and include shut-off valves and other devices to control damage. However, breaks in the water system could impede the ability to fight fires, while road damage may impede emergency response.

The City has developed emergency operation plans to address potential road damage, pipeline rupture, and utility service disruption. Caltrans facilities, including the I-80 and 580 interchange, have been upgraded to modern engineering standards. The elevated section of BART was recently retrofitted to improve its seismic stability, while East Bay Municipal Utility District (EBMUD) has been undertaking a comprehensive seismic upgrade and resilience program for several years. The City is currently planning a reconstruction of its Public Works Maintenance Center to ensure that it can function effectively after a major earthquake.

Albany also has adopted zoning standards that limit densities on steep hillsides and allow narrower roads in these areas to reduce hillside grading. The maximum density allowed by zoning may not be achieved on slopes greater than 30 percent, and areas with slopes greater than 40 percent may not be considered in the calculation of allowable density on hillside lots. The City has also adopted grading requirements which limit earth movement and the potential for landslides in hillside areas.

C. FLOOD HAZARDS

Portions of Albany, including areas along local creeks and San Francisco Bay, are subject to flooding. Specific areas of the city have been designated by the Federal Emergency Management Agency (FEMA) as 100-year flood hazard areas, which means there is a one-percent chance of flooding in these areas in any given year. Along Codornices Creek, the flood hazard is mapped in an area extending two vertical feet above the creek banks from the eastern border of the city west to the Bay. The flood hazard area also extends west of Interstate 80 along the channelized portion of the creek at Golden Gate Fields. Along Cerrito Creek, the flood hazard is mapped in an area extending from Adams Street west to the mouth of the creek near San Francisco Bay.

The City has adopted flood damage prevention regulations to reduce potential risks. The Municipal Code identifies areas of flood hazard and requires that a Flood Zone Permit be obtained before any construction or other development occurs in these areas. Approval of a Flood Zone Permit depends on the susceptibility of the site to flooding, the danger of material being swept downstream, the value of the structure to the community, and similar factors. Documentation of the base flood elevation is required. The Code identifies methods of flood proofing and minimizing the potential for flood damage when a permit is issued.

Along San Francisco Bay, areas less than nine feet in elevation have been identified as vulnerable to coastal flood hazards (wave action) in a 100-year storm. The westernmost portion of the Albany Bulb has been designated as Zone X, an area with a one percent chance of flooding to a depth of one foot in any given year. Extreme high tide events may also present a coastal flooding hazard in low-lying areas.

FEMA designated flood prone areas are shown in Figure 8-3.

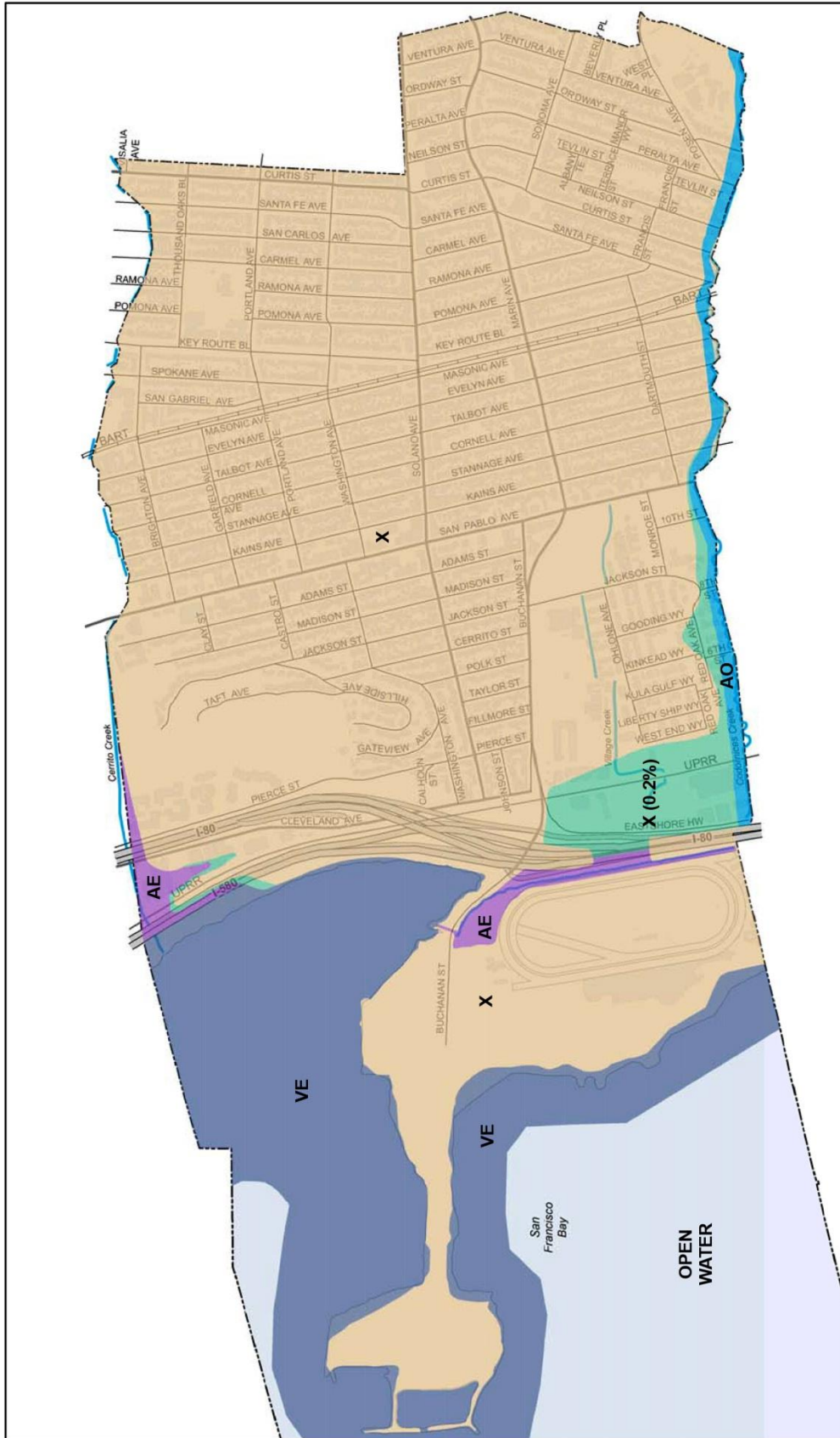










FIGURE 8-3

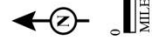
Flood Plains

FEMA FIRM and Flood Hazard Area

- | | | |
|---|----------|--|
|  | AE | (= 1% annual chance determined by detailed methods) |
|  | AO | (= 1% annual chance shallow flooding/sheet flow 1-3 feet) |
|  | VE | (= tidal areas with a 1% annual chance with additional storm wave hazards) |
|  | X (0.2%) | (= areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 sq. mi.; and areas protected by levees from 1% annual chance flood) |
|  | X | (= areas outside 1% annual chance or 1% chance with depths less than 1 ft, drainages, less than 1 sq mi. or levee protected areas) |

LEGEND

-  Albany City Limit
-  Creek
-  Open Water



SOURCE: FEMA National Flood Hazard Layer (08/2009).

FILE: Albany\GP\figures\General Plan\Fig_8-3_Flood Plains.ai (11/9/15)

Sea Level Rise

Global temperatures have warmed by more than one degree Fahrenheit in the last 100 years and are projected to continue rising in the future. The combined effects of thermal expansion (water expanding in volume as it gets warmer) and glacial/ice sheet melting resulting from warmer temperatures have contributed to sea level rise across the planet. According to the National Oceanic and Atmospheric Administration, mean sea level in San Francisco Bay has increased by about 8 inches over the past century.

The rate of sea level rise is expected to increase in the future, increasing flood hazard levels along the shoreline and in nearby low-lying neighborhoods. Although the rate of increase cannot be predicted with certainty, most projections vary from 20 to 80 inches by the year 2100.



Heavy rains trigger flooding on an Albany street

According to the Bay Conservation and Development Commission, a 55-inch rise in sea level would expose 333 square miles and 270,000 people in the Bay Area to flooding. It would also disrupt the region's airports, highways, water and wastewater plants, ports, and affect many commercial and industrial uses. Planning for a more resilient shoreline and adapting to the realities of a rising Bay are imperative to avoid catastrophic economic damage and potential health and safety hazards in the future.

Seismically-Related Flood Hazards

A number of flood hazards are specifically associated with earthquakes. These include tsunamis, seiches, and dam or tank failure.

Tsunamis could be created by underwater seismic events in the Pacific Ocean. A tsunami entering the Bay through the Golden Gate would dissipate fairly quickly as the Bay becomes wider and shallower. Nonetheless, low-lying areas along the shoreline, including tidal flats, marshlands, and landfilled areas, would be vulnerable. The California Geological Survey has designated the entire area west of Interstate 80 as being at risk of inundation.

Seiches are standing waves in enclosed or partially enclosed bodies of water, such as lakes and bays. They may be caused by earthquakes, high winds, or tides. Due to the geometry and dimensions of San Francisco Bay, they are considered to be a negligible hazard to Albany.

While Albany would not be prone to flooding from **dam failure**, the city could be impacted by the failure of East Bay Municipal Utility District's (EBMUD) Berryman Reservoir. The Reservoir is a large underground tank located near Codornices Park in the North Berkeley Hills. Tank failure would cause water to flow west in the area between Cedar and Virginia Streets through Berkeley, and then north along the Eastshore Highway through the western part of Albany to the Codornices Creek channel. The risk has been reduced by the replacement of the former reservoir with a steel tank as part of EBMUD's seismic improvement program.



Photo: Doug Donahew

November 2008 Fire on Albany Hill

D. WILDFIRE HAZARDS

The risk of wildfire is present throughout California. Hazard levels vary depending on factors such as terrain, weather, access, vegetation, and fire history. The California Department of Forestry and Fire Protection (CALFIRE) has mapped areas of significant fire hazard and established requirements for construction that are based on hazard levels. According to the most recent Fire Hazard Severity Zone maps published by CALFIRE, Albany is neither in a State High Fire Severity Area or a Local Very High Severity Area, the two areas of greatest concern.

The potential for grassland or woodland fires is present on Albany Hill, much of which is covered by a non-native eucalyptus forest. In 1991, the City adopted a master plan for vegetation management and fuel reduction on the Hill. This plan was updated in 2012 to reflect current conditions and address issues relating to fire hazards, declining tree health, public access, and flooding. Specific fire reduction strategies have been developed for each vegetation type.

The master plan calls for gradual thinning of the eucalyptus forest and its slow conversion to less fire-prone, more ecologically diverse habitat. A variety of vegetation management prescriptions are being applied to reduce fire hazards, including removing hazardous trees and understory debris, and thinning out so-called “ladder fuels” which enable fires to spread from the understory to tree crowns. Education, enforcement, and limitations on public access are also part of the fire prevention strategy.

The City’s Municipal Code includes requirements for vegetation management and weed abatement on private property. These requirements aim to maintain “defensible space” free of combustible materials within a 30-foot zone around each home. Homeowners are also encouraged to clear branches overhanging their roofs, remove leaf debris from roof gutters, screen chimney vents to reduce stray embers, and attach spark arresters to small combustion engines.

Like all cities, Albany is also prone to structure fires. Peak water flow (fire-fighting) requirements for such fires vary depending on the type of land use, the degree of hazard, and building occupancy. Water pressure in Albany is generally adequate to respond to wildfire and urban structure fires, but the National Fire Protection Agency has identified several areas as having reduced flows. East Bay Municipal Utility District (EBMUD) determines available flow and pressure when development is proposed. Improvements may be required prior to providing water connections for new development.

Water supply is prone to interruption by a major earthquake. The City has been working with EBMUD to improve system-wide water reliability and resilience. Albany also has mutual aid agreements with adjacent cities in the event it is unable to respond to all fire-fighting needs.

Road widths are sufficient for fire-fighting vehicles and other emergency vehicles on most streets. However, Albany is an older city and most of its streets were laid out before modern engineering standards were developed. There are a number of winding, narrow streets on Albany Hill, and there are approximately 10 dead-end streets where turning radii may be insufficient for fire trucks based on today's standards. Widening or extending local streets to address these constraints is not viable in most cases, and would conflict with other General Plan goals regarding street design and neighborhood character.

The Fire Department works closely with the Community Development Department in the review of proposed development, and specifies appropriate measures for new development to ensure that sufficient fire protection can be provided. The City also has adopted parking limits and curb restrictions to ensure adequate access for emergency vehicles.

The Community Services and Facilities Element may be consulted for additional information on fire-fighting capacity and response time.

E. HAZARDOUS MATERIALS

Hazardous materials include substances that are flammable, corrosive, explosive, radioactive, infectious, thermally unstable, and poisonous. Although such substances are usually associated with industry, they are also found at gas stations, dry cleaners, medical offices, public buildings, and many retail and office uses. Hazardous materials are also used by most households, in the form of cleaning solvents, paint, motor oil, pesticides, and common household chemicals.

The proper management of hazardous materials is a concern in all communities. Release of hazardous materials into the atmosphere or on to the ground may occur during use, storage, transfer, and disposal, potentially contaminating water, soil, and air. The federal and state governments have enacted laws and regulations to investigate and mitigate potential hazards.

Most federal responsibilities have been assigned to the US Environmental Protection Agency (EPA). In California, most of EPA's enforcement authority has been granted to the California Environmental Protection Agency (Cal/EPA). Cal/EPA works with the State Water Resources Control Board, the Department of Toxic Substance Control, Caltrans, and the California Division of Occupational Health and Safety (Cal/OSHA) to regulate hazardous materials activities. Regional agencies such as the Bay Air Quality Management District and the Regional Water Quality Control Board are also engaged in carrying out hazardous materials laws.

Several hazardous materials management programs are administered by the Alameda County Department of Environmental Health (see text box). In addition, the City of Albany has jurisdiction over what is transported on City streets, while the State of California regulates freeways and San Pablo Avenue and the federal government regulates the railroads. The Albany Fire Department is the initial responder to spills and other hazardous materials incidents.



Alameda County Environmental Health and the Unified Program

Many of the hazardous materials requirements in California have been bundled into what is known as the "Unified Program." The Program ensures consistency throughout the state with regard to administration, permitting, inspection, and enforcement. There are 83 local government agencies known as Certified Unified Program Agencies (CUPA) in the state; the CUPA for Albany is the Alameda County Department of Environmental Health (ACDEH). ACDEH administers the following programs in Albany:

- **Hazardous Materials Business Plans.** This program requires any facility that uses, handles, or stores aggregate quantities of any hazardous materials equal to or greater than 55 gallons of liquid, 500 pounds of solid, and/or 200 feet of compressed gas to report their chemical inventories and prepare a Hazardous Materials Business Plan.
- **Accidental Release Prevention Program.** Facilities that handle more than a threshold quantity of regulated substances must prepare a risk management plan, including measures to reduce the potential for an accidental release.
- **Underground Storage Tank Program.** This program issues five-year permits for the operation of underground tanks storing such substances as gasoline. Tanks must be monitored for leaks and designed to contain leaks in the event they occur.
- **Above Ground Storage Tank Program.** This requires spill prevention and control plans for above ground storage of petroleum products in quantities exceeding certain thresholds.
- **Hazardous Waste Generator Program.** Facilities that generate hazardous waste must register and submit electronic surveys to verify compliance with basic regulations.
- **Hazardous Waste Tiered Permitting Program.** This regulates the quantity of hazardous waste that may be treated on-site. Requirements vary depending on the type of waste.

The status and location of all hazardous materials in California are reported on State-managed data bases. According to these data bases, the majority of sites requiring remediation in Albany are related to leaking petroleum from underground storage tanks. Although leak prevention requirements should reduce releases in the future, some tanks installed in previous decades have failed, causing contamination of soil and groundwater.

Record searches conducted as part of the General Plan Update indicated 48 hazardous material release sites in Albany. Thirteen of these sites are under active regulatory agency oversight for remediation and monitoring and the remaining 35 are closed cases. The primary contaminants of concern are petroleum hydrocarbons, chlorinated solvents, volatile organic compounds, and metals. The 13 active sites include three gas stations, a mini-mart, a car wash, and a tire shop on San Pablo Avenue. The sites also include a dry cleaner on Solano Avenue, the Albany Fire Department, Golden Gate Fields, a private residence, and two industrial uses on Cleveland Avenue. The level of remediation required in each case is dependent on a number of factors, including allowable future uses on each site. Other potential remediation concerns in Albany could include lead in soils along Interstates 80 and 580, given the high traffic volumes on these roadways and the use of leaded gasoline prior to the 1980s.

There are also two fuel pipelines bisecting Albany. A Kinder Morgan fuel pipeline runs parallel to the Union Pacific Railroad and carries diesel, gasoline, and jet fuel from refineries in Contra Costa County to Oakland Airport. A PG&E natural gas pipeline runs along a north-south alignment through University Village and along the east side of Albany Hill. The pipelines are periodically inspected and are subject to numerous state and federal safety regulations.

Household Hazardous Waste

Many Albany residents routinely store and dispose of hazardous materials at home. In California, it is illegal to dispose of these materials in the trash, down the drain, or by abandonment. Pouring paint, motor oil, and similar substances down the drain or into storm sewers, and placing electronic waste, batteries, and similar items in the trash, could contaminate soil, groundwater, or surface water. Albany residents may dispose of such waste at a household hazardous waste collection facility in Oakland operated by the County Waste Management Authority. The City also holds an annual electronic waste collection event and allows a limited number of household hazardous waste items (such as batteries and CFL light bulbs) to be collected through curbside pickup.

Hazardous Building Materials

Hazardous building materials are commonly found in older structures and may require special handling during demolition and renovation. Materials such as thermal insulation, asphalt shingles, and vinyl flooring installed prior to 1981 may contain asbestos. Lead compounds may be present in interior and exterior paints. Both lead and asbestos are known carcinogens. Demolition or renovation could release asbestos fibers and lead particles, which could then be inhaled. Other items, such as electrical transformers, fluorescent light bulbs, thermostats, and heating and cooling equipment, could contain hazardous materials and may pose a health risk if not handled properly.

The removal of hazardous building materials is governed by state and federal regulations. The Bay Area Air Quality Management District oversees the removal of asbestos-containing materials and enforces special disposal requirements. Lead-based paint must be disposed as hazardous waste if the lead-content exceed applicable thresholds. Special protective measures are required for construction tasks related to lead.

F. EMERGENCY PREPAREDNESS

The Albany Fire Department is responsible for responding to and preparing for local emergencies and disasters. Section 2.16 of the Albany Municipal Code establishes provisions for disasters and emergencies, including the creation of a Disaster Policy Advisory Group to assist the City Council in enacting emergency response regulations. The Policy Advisory Group consists of the Vice-Mayor, the Assistant Director of Emergency Services, and representatives from City Departments, neighborhoods, the School District, and civic organizations. The Policy Advisory Group is also empowered to assist in the development of emergency response and operations plans. The City Administrator is designated the Director of Emergency Services.

Emergency preparedness plans have been adopted to meet state and federal disaster relief eligibility requirements. The City has adopted a Multi-Hazard Functional Plan (also known as SEMS or Standardized Emergency Management System Plan) to address emergencies such as earthquakes, wildfires, floods, and civil disturbances. The General Plan recommends an update of this Plan to incorporate current information and to reflect the available resources and organizational structure of City government. As required by State law, Albany has also adopted a Local Hazard Mitigation Plan (LHMP) to identify hazards in the community along with strategies to mitigate losses associated with those hazards in the future.



Preparedness training by the Albany Fire Department

Photo: Recreation and Community Services Department

Albany constructed a new Emergency Operations Center (EOC) in 2009 adjacent to the Police and Fire Departments at 1000 San Pablo Avenue. The EOC serves as the primary location for internal operational, planning, and logistical activities in the event of a local disaster. The City conducts periodic emergency drills using the EOC as its command center. A Regional Information Management System (RIMS) has been installed to coordinate communication with County and State agencies.

Education, training, and readiness is a critical part of emergency preparedness. The City hosts Community Emergency Response Team (CERT) Training to improve preparedness at the neighborhood level. The City has set the objective of having at least one person on each city block trained in CERT and capable of serving as a Block Captain. Many blocks meet the standard and are already implementing programs to improve earthquake readiness and post-disaster response. Block-level activities include assigning post-disaster responsibilities to individual households, identifying special needs households, mapping and marking utility shutoffs, light rescue, basic first aid, and participating in disaster drills.

An important part of the CERT process is encouraging individual households to be better prepared for an earthquake by reducing risks in their homes and having emergency supplies on hand. The risk of injury can be substantially reduced through basic actions such as securing bookshelves and tall furniture and installing earthquake latches on cabinets. Residents are also encouraged to keep basic disaster supply kits with non-perishable food, water, first aid supplies, flashlights, and other essential items.

Evacuation Routes

In the event of an emergency, the City's arterials would function as evacuation routes. San Pablo Avenue provides the primary north-south route, while Marin Avenue and Buchanan Street provide the primary east-west routes. In the event these roads are not passable, the grid layout of the City's street system facilitates the use of parallel streets as alternate routes.

G. NOISE

Noise is a substantial environmental hazard in Albany, with the potential to impact human health and well-being. It can interfere with communication, work, rest, recreation, and sleep, and produce physiological and psychological damage. The city's landscape includes two freeways, a railroad, and an elevated rapid transit line within a relatively compact, densely populated area. Its land uses include a mosaic of businesses and residences in close proximity, creating the potential for noise-related conflicts and compatibility issues. It is essential to maintain and enforce standards which minimize the effects of noise on residents, businesses, and public places throughout the city.

According to the US Department of Housing and Urban Development, permanent physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 to 90 decibels. Even prolonged exposure to noise at 75 decibels can cause increased body tension and blood pressure, and impact the nervous system. Unwanted effects of noise can occur at much lower levels. For example, common sources such as music, helicopters, barking dogs, and car alarms can be a source of annoyance if they interfere with sleep, conversation, rest, or work.

State, federal, and local regulations have been developed to protect the public from the effects of noise. At the federal level, the Environmental Protection Agency has established the levels of sound necessary to protect the public welfare with an adequate margin of safety. The State of California has established noise insulation standards which address both interior and exterior noise levels. These are expressed in the California Building Code, which has been adopted by the City of Albany. The City has also adopted a local Noise Ordinance as part of its Municipal Code. The Ordinance specifies acceptable noise levels at different hours of the day and addresses such activities as construction, demolition, and yard maintenance. Procedures for registering complaints, fines, and penalties also are established.

The Measurement of Noise

Measuring noise takes three factors into consideration: (1) the magnitude of the sound; (2) the frequency of the sound; and (3) the variation in sound level over time. Noise levels are usually expressed with an indication of the length of the measurement period. For longer periods, the measurement reflects the average level over the period, accounting for the variations in noise that occur over time. A single measure called the “equivalent sound level” or L_{eq} is used to describe average noise over a specified time period.

Sound is typically measured using decibels (dB). A measurement of 10 dB would be considered the lowest threshold of hearing, while 120 dB is extremely loud. Decibels are expressed on a logarithmic scale. In other words, a reading of 50 dB is 10 times louder than 40 dB and 100 times louder than 30 dB. Noise measurements are taken on a scale (expressed as “dBA”) that filters out very low and very high frequencies.

Noise measurements also consider the greater sensitivity of people to noise at night. The term “Community Noise Equivalent Level” or CNEL describes the average noise over a 24-hour period, with a penalty of 5 dB added to sound levels between 7 PM and 10 PM, and a penalty of 10 dB added to sound levels between 10 PM and 7 AM. The term L_{dn} (day-night level) is similar, but excludes the 7 PM to 10 PM adjustment.

The term “ambient noise” describes the composite noise from all sources at a given location. The US Environmental Protection Agency suggests that ideally, outdoor ambient noise levels be no greater than 55 dB L_{dn} in residential areas. The US Department of Housing and Urban Development has a minimum outdoor noise standard of 65 dB L_{dn} for residential uses. Where housing is located in areas with ambient noise that exceeds this level, special insulating measures are usually required to reduce interior noise.



Photo: Doug Davidson



BART train along Key Route Boulevard

Noise Sources in Albany

Motor vehicle traffic is the dominant source of noise in Albany. The amount of noise varies according to many factors, such as the volume of traffic, the mix of vehicles (cars and trucks), average traffic speed, and distance from the observer. While the most significant sources are Interstates 80 and 580, streets such as San Pablo Avenue, Buchanan Street, Solano Avenue, and Marin Avenue also are contributors.

Rail noise is created by BART trains and trains on the Union Pacific rail line on the west side of Albany. BART trains generate noise levels that exceed desirable levels along Masonic Avenue and Key Route Boulevard, which run parallel to the elevated tracks. Adjacent land uses include parkland (the Ohlone Greenway), single family residences, and schools, all of which are considered sensitive receptors. Some exterior noise reduction has been achieved through track improvements and new technology, but additional insulation would be needed to achieve desired interior noise levels for some of the adjacent residences.

The City is not significantly impacted by airport noise. Oakland Airport is located 13 miles south of the City, and San Francisco International is 22 miles southwest, across San Francisco Bay. Buchanan Field is located approximately 17 miles to the east. No portion of the city lies within designated airport noise impact areas.

Construction is another source of noise in the city. Short-term noise is associated with demolition, excavation, grading, and building construction. Jackhammers, pile drivers, pneumatic tools, generators, air compressors, and earth-moving equipment all typically generate noise levels that exceed 80 dBA at a distance of 50 feet. Albany's Noise Ordinance limits most construction activities to the hours of 8 AM to 6 PM on weekdays and Saturdays, and 10 AM to 6 PM on Sundays and holidays. Appropriate sound muffling equipment must be used to reduce impacts.

Stationary sources of noise include heating and ventilation equipment, delivery trucks, motors, and industrial activities in the western part of the city. These activities are also subject to the standards of the Albany Noise Ordinance. Noise from individual businesses, such as restaurants, bars, car washes, and automotive service centers, may be subject to conditions of approval specified through conditional use permits. During the permitting process for new or expanding businesses, the Planning and Zoning Commission may establish limits on hours of operation and activities in order to reduce noise concerns. The City may also require measures such as landscaping and supplemental insulation to reduce the potential for future noise conflicts.

Current Noise Levels

As part of the General Plan Update, noise surveys were conducted to determine ambient noise levels in different parts of Albany. Short-term (20-minute) measurements were taken at seven locations and long-term (24-hour) measurements were taken at five locations. The results are shown in Table 8-1.

The short term measurements indicate brief instances of high maximum noise levels at the sampling locations, exceeding 100 decibels in one instance and exceeding 80 decibels at least once during the interval at all locations. The peak noise levels were associated with passing trains, BART, individual trucks and similar sources.

The quietest readings at the seven locations ranged from a low of 43 decibels to a low of 61 decibels. The ambient noise levels, which represent the average level of noise during the 20-minute period, ranged from 66-67 decibels in neighborhoods to 83 decibels next to BART.

The long term (24-hour) measurements indicate more moderate noise levels, and reinforce that high noise levels are not continuous throughout the day. The Community Noise Equivalent Level (or CNEL) ranged from 57 dB for a 24-hour period on Portland Avenue near Memorial Park to 76 dB on Pierce Street just south of the Gateview Towers.

Most Albany neighborhoods experience average daily noise levels between 55 dB and 65 dB, with higher levels near the freeway and the BART line. These noise levels are above the optimal levels for residential areas, but are not unusual for urban, high-density communities.

Transportation-related noise conditions across the city have been estimated spatially using a computer model. The Federal Highway Administration has developed such a model, using traffic volumes, vehicle speed, and roadway geometry as inputs. The outcome is expressed using a contour diagram (see Figure 8-4) showing the expected ambient daily noise levels at all locations in the city using 5 decibel intervals. The Figure indicates that areas along the BART tracks and Interstate 80 have noise levels which exceed levels considered desirable for residential use under state and federal standards.

Projected Noise Levels

Figure 8-5 indicates projected noise contours in Year 2035. The projections consider the expected traffic volumes on Albany's major roadways in that year, as described in the Transportation Element. Increases in traffic volumes typically result in increases in noise levels. Thus, the noise contours along I-80 and I-580 are expected to grow slightly by 2035. Small increases are also projected along San Pablo Avenue, Buchanan Street, and other arterials.

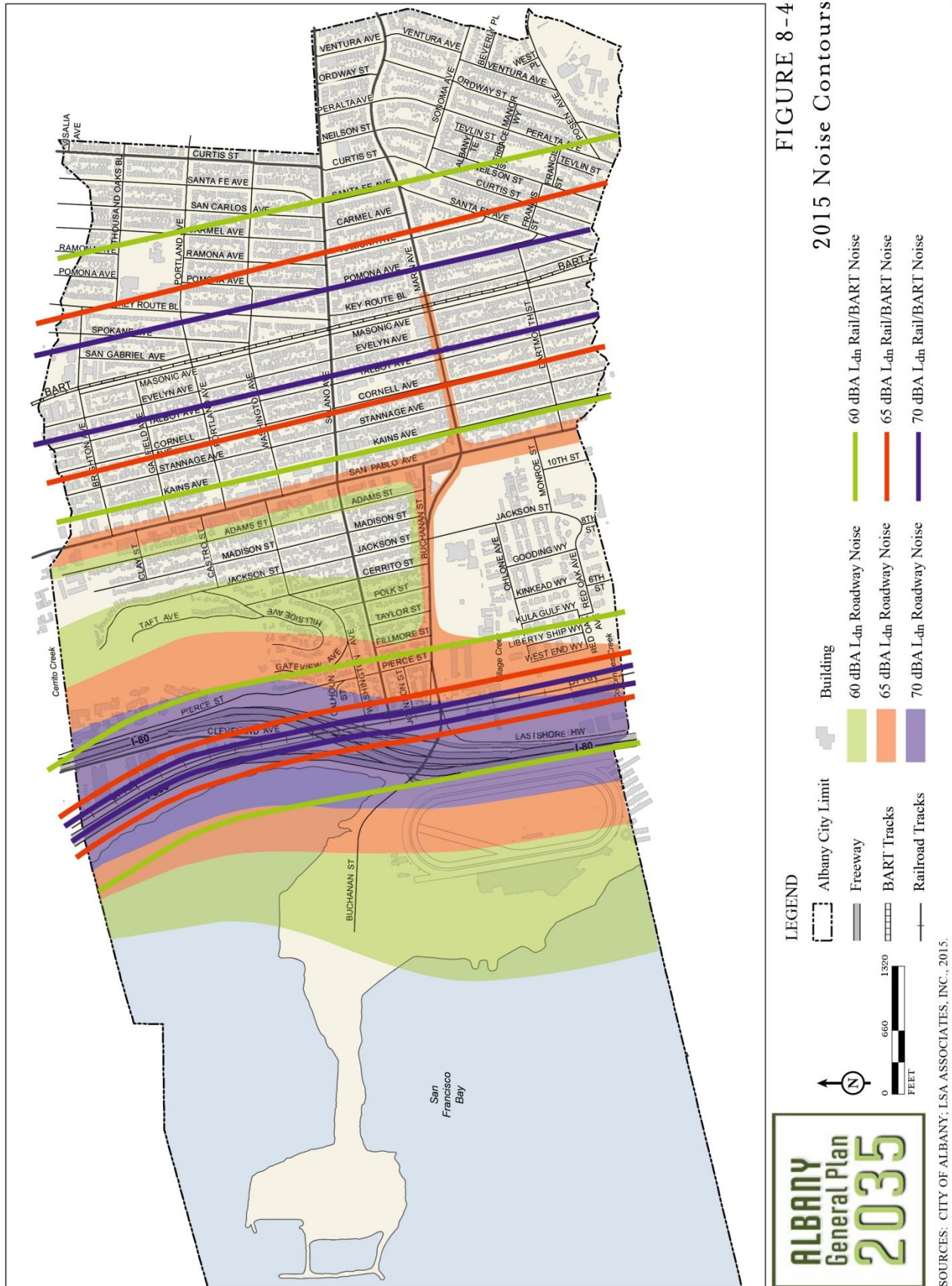
A number of other factors will influence transportation noise levels by 2035. Increased freeway volumes could result in lower travel speeds, which could change the characteristics of noise at certain times of the day. Changes in vehicle design and technology, and increased use of electric vehicles and other alternative fuel vehicles, could reduce noise levels. Increased train traffic on the Union Pacific Railroad, and changes in BART technology or system design also could affect future noise levels.

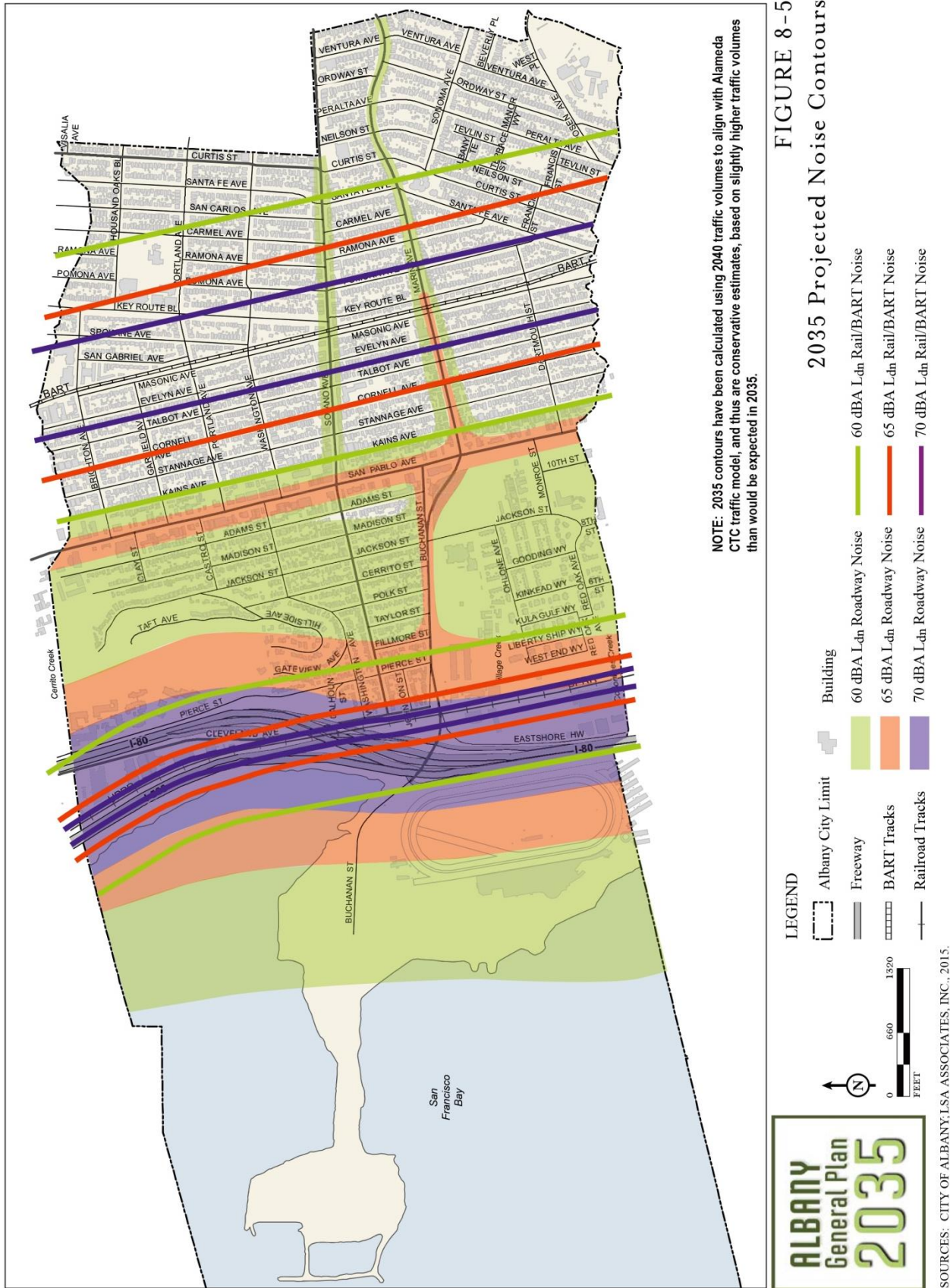
Table 8-1: Ambient Noise Levels in Albany

Short-Term (20-minute) noise levels			
Monitoring Location	Time (approx.)	Maximum/Minimum Levels (dBA)	Ambient Noise Level (L _{eq})
NE corner Pierce and Solano	11:50 AM-12:10 PM	59.2-89.8	67.8
NE corner Madison and Solano	12:15-12:35 PM	48.7-88.9	66.3
Cleveland Avenue, near Public Works Center	12:40 1:00 PM	61.3-99.3	79.8
SW corner Solano and Masonic	8:45-9:05 AM	52.7-89.6	72.3
NE corner Marin and Talbot	9:10-9:30 AM	49.7-88.7	66.8
Solano west of San Pablo	8:20-8:40 AM	55.1-94.1	70.2
NE corner of Masonic and Brighton	10:10-10:30 AM	43.5-103.7	83.9

Long-Term (24-hour) noise levels		
Monitoring Location	Sources	Ambient Noise level (CNEL)
Marin Avenue near Curtis (near Marin School)	BART trains, local traffic	69
Pierce Street south of Gateview Towers	I-80, local traffic, trains	76
Portland at Pomona (near Memorial Park) – Day One	Traffic, people talking, children	58
Portland at Pomona, Day Two	Same as above	57
Posen Avenue	Traffic, people talking	56
Solano at Curtis (near Safeway)	Parking lot activities	63

Source: LSA Associates, 2014





Based on the information available at this time, noise levels are not expected to change perceptibly in the City by 2035. Increases are expected to be in the range of 1 to 3 dBA. In general, increases in noise of less than 3 dB Ldn are not perceptible. A 5 dB increase is typically used as the threshold to identify a “significant” noise impact under the California Environmental Quality Act.

Noise Compatibility Guidelines

The State of California has developed noise compatibility guidelines for use by local governments. These guidelines indicate the types of uses that are acceptable in a given location based on the ambient noise levels at that location. The guidelines are structured to reflect the sensitivity of different land uses to noise. For example, schools, hospitals, and housing are considered “sensitive receptors” and require a quieter environment than uses such as industry or warehouses. Most local governments in California, including Albany, have adopted the State noise guidelines in their General Plans.

Table 8-2 presents the noise compatibility guidelines for Albany. The table indicates the exterior noise levels that should be considered *normally acceptable*, *conditionally acceptable*, and *normally unacceptable* for major categories of land uses. Where exterior noise levels fall within the “conditionally acceptable” or “normally unacceptable” ranges, acoustical studies should be required before those land uses are approved.

The designation of an area as “normally unacceptable” for a particular use does not mean the use is completely prohibited. Rather, it means that this is not an optimal environment for the use and substantial attenuation measures may be required to address noise issues. This would apply to the siting of future residential uses along Pierce Street and Cleveland Avenue, where ambient noise levels exceed 70 dB L_{dn}. Such uses would be required to incorporate extensive noise insulation in order to achieve the required interior noise level of 45 dB.

Mitigating Noise Impacts

Measures to reduce noise impacts fall into three categories.

The first category consists of measures that reduce noise at the source. These include actions such as bans on gasoline powered leaf blowers, building code requirements to insulate outdoor motors and mechanical equipment, limits on train horns, and replacing diesel buses with alternative-fuel buses that generate less noise. The City of Albany will continue to implement programs which reduce the sources of noise in the community, including the enforcement of its noise ordinance. The City will also continue working with BART, AC Transit, Caltrans, and the Union Pacific Railroad to reduce noise generated by the transportation network.

The second category includes measures which intercept sound waves on the path between the source and receptor. The most familiar measure in this category is a sound wall. Noise barriers also may include fences, berms, and landscaping. Such barriers absorb a portion of the noise emanating from the source. No major sound wall or noise buffering projects are planned in Albany at this time.

The third category includes measures aimed at noise receptors—for example, double-paned windows and insulation in a single family home. Standard building construction typically reduces noise levels from outside to inside by 10 to 20 dB. Additional reduction can be achieved through site planning and design. Setting a building back from a busy roadway, or placing sleeping areas in the rear of a home rather than facing the street, can create a more favorable interior noise environment. Noise levels can be substantially reduced by increasing wall mass and thickness, adding acoustical blankets, sealing cracks and edges, increasing glass thickness, using solid core doors instead of hollow doors, and using interior finishes such as carpeting, drapes, and acoustical ceiling tiles. Recirculating fountains and similar water features can also be used to mask noise or lessen its intrusive quality at locations near freeways and other noise sources.

Table 8-2: Noise Compatibility Guidelines for Albany

Land Uses	Interior CNEL or L _{dn} (dBA)	Exterior Noise Exposure, CNEL or L _{dn} (dBA)					
		55	60	65	70	75	80
Residential-Low Density Single-Family, Duplex, Mobile Homes	45*	Yellow	Yellow	Yellow	Yellow	Red	White
Residential-Multiple Family	45*	Yellow	Yellow	Yellow	Yellow	Red	Purple
Transient Lodging, Motels, Hotels	45*	Yellow	Yellow	Yellow	Yellow	Red	Purple
Schools, Libraries, Churches, Hospitals, Nursing Homes	45*	Yellow	Yellow	Yellow	Yellow	Red	Purple
Auditoriums, Concert Halls, Amphitheaters	--	Yellow	Yellow	Yellow	Yellow	Red	Red
Sports Arena, Outdoor Spectator Sports	--	Yellow	Yellow	Yellow	Yellow	Red	Red
Playgrounds, Neighborhood Parks	--	Yellow	Yellow	Yellow	Yellow	Red	Red
Golf Courses, Riding Stables, Water Recreation, Cemeteries	--	Yellow	Yellow	Yellow	Yellow	Yellow	Red
Office Buildings, Businesses, Commercial and Professional	50	Yellow	Yellow	Yellow	Yellow	Yellow	Red
Industrial, Manufacturing, Utilities, Agricultural	--	Yellow	Yellow	Yellow	Yellow	Yellow	Red



Normally Acceptable:

Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



Normally Unacceptable:

New construction or development should generally be discouraged. If new construction does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



Conditionally Acceptable:

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



Clearly Unacceptable:

New construction or development generally should not be undertaken.

* Noise level requirement with closed windows, mechanical ventilation, or other means of ventilation shall be provided per Chapter 12 Section 1205 of the Building Code.

Source: State of California General Plan Guidelines, 2003.

H. GOALS, POLICIES, AND ACTIONS

GOAL EH-1: HAZARD REDUCTION

Reduce the potential for injury, property damage, and loss of life resulting from earthquakes, landslides, floods, and other natural disasters.

POLICIES

Policy EH-1.1: Hazard-Sensitive Planning

Ensure that future development is sited, designed, and constructed to minimize risks associated with earthquakes, flooding, landslides, and other natural hazards. Appropriate mitigation measures should be required to reduce hazard risks.

See Goal EH-4 for additional information on earthquake awareness, education, and preparedness.

Policy EH-1.2: Critical Facilities

Ensure that critical public facilities such as City Hall, schools, the police station, and the fire station are designed and maintained in a manner that ensures their resilience and ability to function during and after a natural disaster.

Policy EH-1.3: Retrofits

Strongly encourage the retrofitting of existing structures to reduce the risk of collapse and/or major damage and injury in an earthquake. As appropriate, the City may require seismic upgrading of structures when they are substantially rehabilitated or remodeled.

Policy EH-1.4: Soil-Related Hazards

Use best management practices to reduce risks to structures, roads, and utilities associated with erosion, shrink-swell potential, subsidence, and other soil-related hazards.

Policy EH-1.5: Building Codes

Periodically update local building codes and regulations to incorporate emerging technologies and methods which reduce earthquake-related hazards.

Policy EH-1.6: Flood Plain Management

Avoid development of structures in the 100-year flood zone. Where no other feasible alternative exists, use construction measures which reduce safety risks and minimize the potential for structure damage.

Policy EH-1.7: Flood Control and Conservation

Ensure that future projects to reduce flooding are compatible with and advance local conservation policies, including those to restore creeks and protect riparian habitat. Flood control measures should strive for solutions which restore natural features and protect the area extending 100 feet back on each side of creek centerlines, rather than replacing such features with engineered channels.

See the Conservation and Sustainability Element for additional policies on creek restoration and the protection of riparian areas. See Policy CON-3.6 on Low Impact Development, which reduces stormwater runoff and associated flood hazards.

Policy EH-1.8: Sea Level Rise and Tsunamis

Consider the effects of sea level rise and tsunamis on the long-term safety and viability of structures, utilities, and other improvements built in low-lying areas. Sea level rise should be considered in any plans for the Albany Neck and Bulb, and plans for any future reuse of Golden Gate Fields. The City should examine potential “worst case scenario” impacts as well as impacts consistent with current predictions and models.

See the Conservation and Sustainability Element and the Waterfront Element for additional policies on climate change.

IMPLEMENTING ACTIONS

Action EH-1.A: Soil and Geological Reports

Require soils and/or geologic reports for proposed development in areas with high susceptibility to ground failure during an earthquake, and in other areas with the potential risk of slope failure, landslides, liquefaction, or other geologic hazards.

Action EH-1.B: Unreinforced Masonry Buildings

Continue efforts to retrofit the remaining Unreinforced Masonry Buildings in Albany. Various financing options and programs should be explored to assist private property owners in meeting current Building Code requirements.

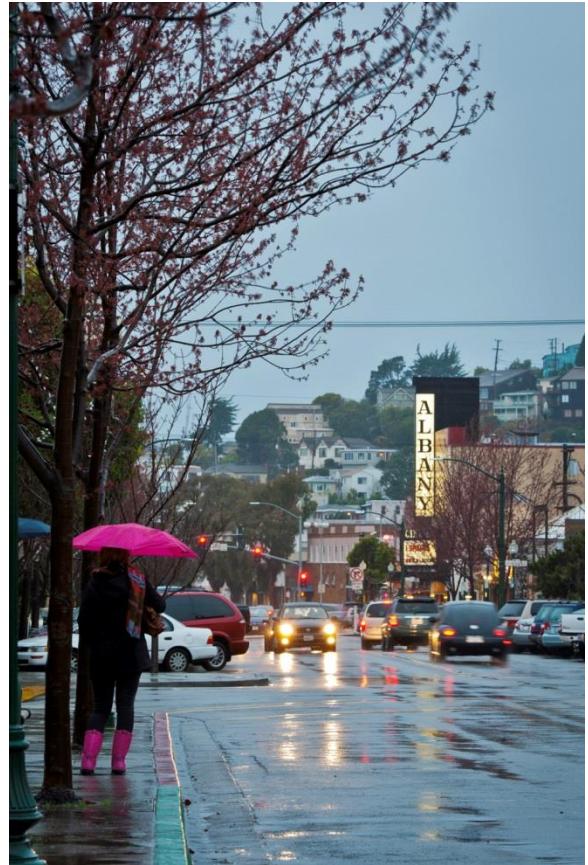
Action EH-1.C: Soft-Story Buildings

Prepare an updated inventory of Albany's soft-story buildings and develop incentives and other programs to assist owners in retrofitting such structures to improve their performance in a major earthquake. To the extent financially feasible, a mandatory soft-story building upgrade program should be considered.

Soft-story buildings are typically two to three story multi-family buildings with ground floor carports and other ground floor openings which require additional stability to withstand a major earthquake. Such structures have been identified as a vulnerable component of the City's building stock and would benefit from the installation of shear walls and other improvements to reduce the risk of collapse. The City will explore incentives for owners to undertake retrofits, potentially including additions of habitable space to the structure beyond what would be permitted by zoning.

Action EH-1.D: Assessing Critical Facilities

As part of the City's emergency preparedness planning, assess the structural integrity of critical public facilities and identify what additional measures might be needed to meet current seismic safety standards.



Solano Avenue in the rain

Photo: Doug Davidson

Action EH-1.E: Update of Flood Plain Maps

Work with the Federal Emergency Management Agency to periodically update maps of the 100 and 500 year flood plains. The updates should consider the existing and projected benefits of regional stormwater management efforts.

Action EH-1.F: Building Code Enforcement

Require review of all development and construction proposals by the City of Albany to ensure conformance to current and applicable building code standards.

GOAL EH-2: WILDFIRE PREVENTION

Minimize wildfire hazards on Albany Hill and in other parts of the City where such hazards are present.

POLICIES**Policy EH-2.1: Vegetation Management**

Implement vegetation management and fuel reduction programs in the highest hazard areas on Albany Hill, including areas adjacent to homes and areas of heavy recreational use.

Policy EH-2.2: Collateral Benefits

Maximize opportunities for collateral benefits associated with vegetation management projects, such as habitat restoration, increased security, and enhanced public access.

Policy EH-2.3: Mutual Aid Agreements

Work collaboratively with other jurisdictions to reduce wildfire hazards and respond to wildfire emergencies in the East Bay and elsewhere in California.

Policy EH-2.4: Defensible Space

Ensure that private property owners in areas such as Albany Hill control weeds and other flammable vegetation around their homes in a manner that minimizes the risk of structure fires and threats to nearby properties.

See the Community Services and Facilities Element for policies on urban fire prevention.

IMPLEMENTING ACTIONS**Action EH-2.A: Albany Hill Eucalyptus Forest Management**

Manage the eucalyptus forest on Albany Hill to reduce the threat of wildfire. Consistent with the Albany Creekside Master Plan, this should include a combination of removing accumulated ground debris, managing ground cover and shrubs, removing loose or hanging bark, removing the growth of previously cut stumps, removing non-native trees such as acacia where they act as ladder fuels, maintaining the canopy to prevent invasive shrubs, and selectively thinning out denser stands.

See the Conservation and Sustainability Element for additional policies on vegetation management.

Action EH-2.B: Peak Load Water Supply

Work with EBMUD to ensure that peak load water supply and water pressure is sufficient to respond to local fire emergencies.

GOAL EH-3: HAZARDOUS MATERIALS

Reduce the exposure of present and future Albany residents and workers to hazardous materials.

POLICIES

Policy EH-3.1: Consideration of Prior Uses

As part of the development review and approval process, consider potential risks associated with the previous uses of property that may have involved hazardous material handling, storage, or disposal. Require remediation where such hazards exist to ensure the health and safety of future residents and workers.

Policy EH-3.2: Design of Storage and Handling Areas

Ensure that hazardous material storage and handling areas are designed and operated to minimize the risk of environmental contamination and the potential for adverse health effects.

Policy EH-3.3: Interagency Coordination

Continue to work with Stopwaste.org, the Alameda County Waste Management Authority, the Alameda County Environmental Health Department, and state and federal agencies to ensure the safe storage, handling, and disposal of hazardous materials within Albany.

Policy EH-3.4: Transportation Safety

Support and encourage state and federal legislation which strengthens safety requirements for the transportation of hazardous materials by truck, rail, and pipeline through Albany and nearby cities.

Policy EH-3.5: Hazardous Building Materials

Coordinate with appropriate regulatory agencies and building owners to reduce potential hazards related to exposure to hazardous building materials, such as lead, mercury, and asbestos. Ensure that any hazardous materials removed during home renovations are properly handled and disposed.

Policy EH-3.6: Household Hazardous Waste

Support expanded public education on household hazardous waste and the locations where such waste can be safely and properly disposed in Alameda and Contra Costa Counties.

Policy EH-3.7: Development Review

Consider proximity to hazardous materials in the development review process. Zoning regulations and standards should ensure safe distances between businesses using hazardous materials and sensitive land uses such as housing.

IMPLEMENTING ACTIONS

Action EH-3.A: Public Education and Outreach

Provide links from the City of Albany's website to the websites of the County, State and federal agencies that regulate hazardous materials management. This should include a link to the State's Envirostor data base, which includes archived reports on hazardous materials clean-up by address, and other data bases indicating where the use of hazardous materials has been permitted.

Action EH-3.B: CUPA Programs

Continue to work with the Alameda County Department of Environmental Health in its capacity as the Certified Unified Program Agency (CUPA) for hazardous materials management programs in Albany, including implementation of requirements for Hazardous Materials Business Plans, Risk Management Plans, and hazardous waste permitting.

Action EH-3.C: Household Hazardous Waste Day

Work with Stopwaste.org to continue the annual household hazardous waste (HHW) collection day in Albany, and to take other steps that enables Albany residents to more easily dispose of household hazardous waste in a safe manner.



Photo: Doug Davidson

Flooding along Codornices Creek

GOAL EH-4: EMERGENCY PREPAREDNESS

Improve City programs and procedures for emergency preparedness and response.

POLICIES

Policy EH-4.1: Response and Recovery Program

Maintain an active and effective City of Albany emergency response and recovery program that provides direction and identifies responsibilities following a disaster.

Policy EH-4.2: Resident and Business Preparedness

Develop and expand local efforts to organize and train area residents and employees so they can assist themselves and others during the first 72 hours following an earthquake or major disaster.

Policy EH-4.3: Emergency Operations Center

Maintain a dedicated Emergency Operations Center to serve as the command point for emergency service delivery and communication. As directed by the Emergency Response Plan, identify supplemental sites (such as schools and/or the Library) where emergency services can be delivered and supplies can be stored.

Policy EH-4.4: Utility Resilience

Work with local gas, electric, cable, water, sewer, and other utility providers to maintain and retrofit their facilities and ensure their ability to function or be quickly restored following a disaster.

Policy EH-4.5: Responding to the Needs of a Diverse Community

Ensure that emergency preparedness information is available in the primary non-English languages spoken in Albany, and that preparedness programs recognize the special needs of seniors and persons with disabilities. The City and Fire Department should work with local cultural institutions and special needs service providers to improve preparedness.

Policy EH-4.6: Long-Term Recovery

Incorporate provisions for long-term post-disaster recovery in local emergency preparedness plans. Such provisions should address the period beyond the initial 72 hours following a disaster and should identify strategies for rebuilding, structural repairs, restoration of services, and economic recovery.

IMPLEMENTING ACTIONS

Action EH-4.A: Updated Emergency Preparedness Plan

Update and revise Albany's emergency preparedness planning documents, with an emphasis on meeting the needs of all residents, regardless of language, ability, or age. As part of this effort, review current data and information on hazard levels, existing emergency response protocol, and the preparedness plans of major employers in the community. Emergency plans should be consistent with federal Standard Emergency Management System (SEMS) guidelines, and the standards used to determine funding eligibility for emergency planning, relief, and recovery. The business community should be engaged in the Update process.

Action EH-4.B: Upgrades to Critical Facilities

Continue efforts to upgrade the City's schools and essential service facilities to ensure that they remain functional after a major disaster.

Action EH-4.C: CERT Training

Continue the City of Albany and Albany Fire Department Community Emergency Response Team (CERT) and Albany Local Emergency Response Training (ALERT) training programs for residents.

Action EH-4.D: Emergency Supplies

Regularly acquire, and as needed replace, emergency equipment, supplies, and communication systems, consistent with local emergency response plans.

Action EH-4.E: Drills

Conduct periodic training exercises and disaster drills to test the effectiveness of local emergency response procedures.

See the Community Services and Facilities Element for additional policies on fire protection and emergency medical response.



Photo: Doug Davidson

Car at the crest of the Solano Avenue Hill

GOAL EH-5: NOISE MANAGEMENT**Prevent the exposure of Albany residents to excessive noise levels.****POLICIES****Policy EH-5.1: Noise-Sensitive Design**

Ensure that ambient noise levels are considered in the design and planning of new development, including new construction and major alterations. Where appropriate, require noise reduction measures to reduce the exposure of residents and workers to excessive noise levels.

Noise compatibility guidelines published by the California Office of Planning and Research (Table 8-2) should be used to establish the outdoor ambient noise levels that are “normally acceptable,” “conditionally acceptable,” and “normally unacceptable” for the development of different types of land uses. This table is adopted by reference as part of the Albany General Plan (see P. B-9). Typical design measures to reduce exposure to noise include insulation, double-paned windows, siting of sensitive activities away from nearby noise sources, landscaping, sound muffling devices, and acoustical barriers. High noise levels alone should not preclude housing development on a site if there are design and construction solutions that can mitigate noise to acceptable interior levels.

Policy EH-5.2: Noise-Generating Land Uses

Establish conditions of approval for new activities with the potential to generate significant noise, and require ongoing or periodic monitoring to ensure that these conditions are being met.

Policy EH-5.3: Domestic Noise Sources

Maintain a Noise Ordinance as part of the Albany Municipal Code to regulate and reduce sources of domestic noise in the city, such as construction, business operations, and yard maintenance.

Policy EH-5.4: Roadway Noise

Continue to work with Caltrans to reduce noise associated with traffic on the I-80 and I-580 freeways and other Caltrans facilities such as San Pablo Avenue. Programs to assist residents and businesses near these highways with reducing interior noise levels should be encouraged.

See also Transportation Element Policy 5.7 on the designation of truck routes to reduce truck traffic (and associated noise) in residential areas.

Policy EH-5.5: BART Noise

Continue to work with BART to reduce noise levels associated with passing trains. This should include the use of technologies and equipment that result in lower noise levels, as well as measures to absorb sound or insulate sensitive uses along the BART right-of-way.

Policy EH-5.6: Train Noise

Support measures to reduce train noise and vibration associated with rail traffic along the Union Pacific Rail line on the west side of Albany.



Photo: Doug Davidson

Buchanan off-ramp at Interstate 80

IMPLEMENTING ACTIONS

Action EH-5.A: Noise Ordinance Update

Periodically review the Albany Noise Ordinance to ensure that is consistent with best practices in noise regulation, addresses current noise issues, and is consistent with the General Plan noise compatibility guidelines in Table 1.

Revisions to the ordinance should consider specific provisions to reduce noise from hot tubs, generators, and other mechanical or motorized noise sources on residential properties. Revisions also should be considered to address issues associated with attic vents, hood vents, and similar appurtenances. The Noise Ordinance should ensure the peace and quiet of residential neighborhoods.

Action EH-5.B: Acoustical Study Requirements

Require preparation of an acoustical study for any project which exceeds the “normally compatible” noise levels in the Land Use Compatibility table, based on ambient noise measurements and the Noise Contour Diagrams. The City may also require acoustical studies for projects that meet the noise compatibility guidelines but have the potential to create a significant adverse community response.

Action EH-5.C: Insulation Standards

Continue to enforce, and update as needed, insulation standards for all new residential construction in order to maintain an interior standard of 45 dBA Ldn in all habitable rooms for dwelling units.

Action EH-5.D: BART Noise Mitigation

Work with BART to develop a mitigation program to reduce exterior and interior noise levels along BART’s right-of-way through Albany. Potential solutions should include sound insulation for homes along the BART line, provided that the costs to residents are minimized.

