



Public Safety and Noise
Richmond General Plan 2030



Community Vision

Richmond, California in 2030

Richmond is a safe place to live and work. The City maintains efficient and well-equipped police and fire departments that encourage community partnerships to improve neighborhood conditions. Crime rates are down because local job and entrepreneurial opportunities have increased, schools have improved and attractive housing is readily available. Additionally, anti-violence campaigns, community education programs and improved services for ex-offenders are effectively addressing the underlying causes of conflict.

The City is prepared to respond to disasters and emergencies and has taken steps to provide assistance and shelter, limit risks and minimize losses. Health and safety hazards are carefully considered in all land use decisions. Richmond works with Federal and State authorities to regulate the safe production, transportation, treatment and disposal of substances that may pose contamination risks. Throughout the City, clear noise standards protect the quality of life and insulate residents from excessive noise levels.



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Public Safety and Noise

Introduction

A safe and secure environment is vital to all community members. Richmond fosters a safe and secure environment by anticipating and planning for potential hazards and promoting practices to preserve residents' health and welfare.

The Public Safety and Noise Element:

- Describes potential hazards and police, fire and emergency preparedness as well as noise conditions and standards;
- Highlights key findings and recommendations based on an existing conditions analysis;
- Defines goals for public safety and noise;
- Identifies policies and implementing actions to address public safety and noise issues;
- Provides a summary table identifying lead responsibilities for each implementing action; and
- Reviews the existing regulatory framework that guides public safety planning efforts.

Purpose of the Element

The Public Safety and Noise Element identifies and evaluates public health and safety hazards, and outlines means of limiting unreasonable risks and mini-

mizing losses that can occur as a result of natural or human-caused disasters. The Element addresses emergency preparedness and coordinated response, police and fire protection, and emergency services. Principles of crime prevention through environmental design (CPTED) are considered in the evaluation of land use applications. In addition, the Element aims to reduce noise levels to acceptable standards, and reduce, eliminate or mitigate objectionable noise sources.

Legal Requirement

The Richmond General Plan integrates two state-mandated general plan topics: public safety and noise. The State of California requires that General Plans include a safety element for the protection of the community from any unreasonable risks associated with wildland and urban fires, flooding and known geologic hazards (Section 65302f).¹ Geologic risks are defined as those associated with the effects of geologic hazards such as seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche and dam failure, and slope instability leading to mudslides, landslides and subsidence. Specifically, law mandates that general plans address emergency response and prevention measures, such

as evacuation routes, peak load water supply requirements, minimum road widths and clearances around structures.

In addition, California requires a noise element prepared in accordance with guidelines established by the State Department of Health Services' Office of Noise Control (Section 65302f).¹ This requirement draws on California Noise Control Act findings that: excessive noise is a serious hazard to public health and welfare, and exposure to certain levels of noise can result in physiological, psychological and economic damage.² The noise portion of the Public Safety and Noise Element seeks to ensure that noise levels are consistent with acceptable standards, and that steps are taken to provide for control, abatement and prevention of unwanted and hazardous noise.



Effective measures to prevent landslides are essential when developing on steep slopes.

Richmond Today

Centrally located within the San Francisco Bay Area, Richmond is bordered by the east bay hills and bay waters. In an urban context, these features of the natural environment can also pose flood, fire, geologic and seismic hazards. In addition, some human activity may threaten community health, safety and welfare. These risks include the transport and manufacturing of hazardous materials, undesirable social behavior and unhealthy noise levels.

In Richmond, public safety and noise risks include geologic and seismic hazards, fires, crime, soil contamination, and transport of hazardous materials. Noise concerns focus on transportation-related sources generated by automobile traffic and railroads. The following discussion describes these topics in more detail.

Natural Hazards

Natural hazards have the potential to cause loss of life and damage to buildings and infrastructure. Natural hazards that threaten Richmond include earthquakes, floods and rising sea level. By preparing for incidents that may occur as a result of these hazards, Richmond can avoid or mitigate potential impacts.

Landslides

A landslide is the downslope movement of soil and rock debris. Landslide susceptibility is related to several factors including earthquake-induced ground shaking, rainfall conditions, rock and soil types, steepness and orientation of slopes, lack of vegetation and levels of human disturbance. There are three areas within the City that have been subject to major landslide activity in recent years: El Sobrante Valley where landslides have occurred on both the San Pablo and Sobrante Ridges; the Point Richmond area along the San Pablo/Potrero Hill Range; and the El Cerrito Hills. Slides have occurred within the Hilltop Area and along the more northern reaches of the San Pablo/Potrero Hills Ridge; however, the geology within these areas is generally more stable than in the aforementioned areas.

Liquefaction

Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. As with landslides and mud flows, liquefaction is a form of ground failure where soil strength and stiffness is decreased so that the ability of a soil

deposit to support foundations for buildings, bridges or other structures is reduced.

Subsurface Water

In the Bay Plain area of Richmond, sand layers between clay layers build up artesian pressure that has the potential to burst through the soil layer upon activities such as excavation. These sand layers may be prone to liquefaction under a strong earthquake unless the build up of pressure is somehow relieved.

Faults

The Hayward Fault runs through Richmond following the west ridge of Wildcat Canyon, running west through Parchester Village and into San Pablo Bay. The San Andreas Fault is located nearby, 15 miles to the west, and could potentially produce serious ground shaking and other earthquake-related hazards.

Ground Shaking

Ground shaking is the phenomenon most often associated with seismic activity. Intensity of shaking and relative earthquake damage is heightened with earthquake magnitude, proximity to faults and the presence of deeper soft soils below the ground surface. Most development in Richmond is located on the Bay Plain and along the shoreline where, because of the greater depth of soft alluvial soils and Bay Mud, there is a heightened risk for ground shaking.



Tsunami

A tsunami is a series of several long waves generated by a sudden displacement of a large volume of water. Tsunamis are typically triggered by an underwater earthquake, volcanic eruption or landslide. Tsunami risk is elevated along low-lying areas near the shoreline. Because limited data is available, it is difficult to provide a detailed assessment of this hazard.

Dam Failure

The East Bay Municipal Utility District (EBMUD) sponsored a survey to determine the seismic safety of the San Pablo Dam. EBMUD has lowered the water level behind the dam by 20 feet as part of a retrofit to protect downstream communities from potential flooding. EBMUD has explored alternatives for a permanent retrofit of the dam and at this General Plan writing, has proposed to improve the foundation and construct a downstream buttress for the dam. During construction, the reservoir remains in service at its currently reduced water level.

Seiches

A seiche is an earthquake-generated wave within enclosed or restricted bodies of water such as a lake, reservoir or above-ground tank. A seiche at San Pablo Dam could lead to dam failure and potential flooding in Richmond.

Rise in Sea Level

Another important consideration is the possibility of a rise in sea level over the next 100 years as a result of global warming. Effects of sea level rise could result in increased flooding in low-lying areas along the shoreline, infiltration into sanitary sewer and

storm drain systems near the Bay and an increase in storm drain back-ups resulting in more frequent and extensive flooding.

Flooding

A Federal Emergency Management Agency (FEMA) Flood Insurance Study was prepared for the City in April 1975 and updated in November 1993.³ The Study identified notable flooding problems including: undersized culverts at the Union Pacific Railroad (UPRR); topography that slopes away from stream banks; and inundation by tidal flooding. It also identified areas subject to inundation from a 100-year flood event including the coastal area south of Point Pinole and west of Castro Street and sections of the coastal area from Marina Bay to Point Isabel. The City's Storm Drain Master Plan identifies the amount of runoff remaining in the streets following a storm as a primary deficiency of the storm drain system.

Police, Fire and Emergency Preparedness

Richmond maintains a Police Department of about 170 sworn officers. The Department is moving toward a precinct-based, more decentralized community policing program. While Police Headquarters will remain in the Civic Center area, the Department anticipates three substations in the Richmond Triangle, Hilltop and Annex neighborhoods. This move to precinct-based policing is expected to improve response times and service by assigning officers to specific beats. The Police Department is overseen by a Police Commission,

which advises the Chief of Police, City Council and City Manager on matters related to the police force.

Richmond's Fire Department operates seven fire stations and consists of 85 professional and civilian members. The current emergency planning and preparation strategy involves a number of regulatory tools and City Departments and participation in the Contra Costa County emergency warning system. As Richmond continues to grow and infill development occurs, the City must expand or increase the efficiency of its fire, police and emergency services.

The Planning and Building Services Department reviews all applications for construction and reconstruction of structures that are subject to the California Building Code. This full service department must maintain the capability to respond to a sudden and sustained spike in demand for services that will follow a catastrophic event that would result in damage to multiple structures.

Hazardous Materials

Many materials that are used in manufacturing and research facilities located in Richmond are classified as hazardous. Such materials are transported on streets and freeways, by barge and on railroads. Hazardous materials are present in small quantities in homes and small businesses in the form of solvents, cleaning fluids and other substances. Hazardous materials may also be present in Richmond due to historic industrial uses. Hazardous materials must be used and transported safely to avoid contamination and injury to environmental and human health.



Noise Conditions and Compatibility Standards

Noise is defined as a sound or series of sounds that are intrusive, objectionable or disruptive to daily life. Excessive noise has been tied to physiological and psychological damage.

Noise levels are measured in order to regulate ambient noise and protect residents from exposure to excessive noise. Different land uses have different acceptability levels in terms of noise disturbance. For example, industrial uses have a higher noise threshold than residential uses. Noise standards provide a means of assessing exposure and compatibility based on specific uses. The State of California's General Plan Guidelines define land use compatibility standards for a range of noise exposure levels.

Richmond's diversity and mix of land uses presents a challenge to the City in ascertaining and maintaining thresholds for land use compatibility. In addition to land use planning applications, noise policy establishes the basis for the regulations prescribed in City ordinances and implemented through the City's Code Enforcement program. Specific noise concerns include: establishing land use compatibility standards; enforcing noise standards to protect quality of life; minimizing traffic noise; insulating residences exposed to excessive levels of noise; and regulating new development to limit noise impacts on noise-sensitive uses.

Richmond's significant noise generators, both transportation-related and stationary, are described in more detail below.

Motor Vehicles

Motor vehicles, particularly motorcycles, commonly generate high noise levels in the vicinity of busy freeways or roadways. The City is served by two major freeways, Interstate 80 and Interstate 580. The City also has many local roads that experience high traffic volumes and generate traffic noise in adjacent areas.

Airports

While there are no airports in the City, Richmond is served by two airports, the Oakland International Airport approximately 20 miles south of the City and the San Francisco International Airport approximately 30 miles southwest of the City. Aircraft using both airports fly over the City, but the City is outside their 65 dBA Community Noise Equivalent Level (CNEL) noise impact areas.

Railroads

Railroads can create significant noise, not only by the trains themselves, but also by train horns and warning bells at rail crossings. Several rail lines traverse the City including Union Pacific, BNSF and Richmond Pacific.

In addition to freight trains, Amtrak passenger trains also arrive and depart from the Downtown Amtrak station located at 16th Street and Macdonald Avenue. Amtrak operates two routes through Richmond: the Capitol Corridor route, which runs from San Jose to Auburn, and the San Joaquin route, which runs from Bakersfield to Oakland. These trains use the same route that Union Pacific freight trains use through the City.

BART

BART also runs through the City to the Downtown Amtrak/BART station at 16th Street and Macdonald Avenue. The BART station in Richmond is the terminating point for the Richmond-Fremont BART line. The BART route runs at-grade and parallel to the Amtrak line for about half a mile and then along an elevated structure that is parallel to Ohio Avenue.

Stationary Sources

A variety of stationary sources of noise in Richmond are common to all urban areas, such as noise generated by machinery, heating, ventilation and air conditioning (HVAC) equipment, and landscape maintenance activities. In Richmond's industrial areas, noise is generated by heavy equipment associated with shipping and loading activities, metal scrapping facilities and recycling centers.

The Richmond Rod and Gun Club is a source of regular shooting noise in northern Richmond. Occasional outdoor sporting events, such as those held at Richmond, Kennedy and De Anza high schools, can attract large numbers of spectators and produce noise which can affect nearby residential areas.



Table 12.1: Noise Exposure Land Use Compatibility Standards

Land Use Category	Community Noise Exposure - L _{dn} or CNEL, dB						
	55	60	65	70	75	80	85
Residential Low Density Single Family, Duplexes and Mobile Homes	Green	Green	Yellow	Yellow	Orange	Red	Red
Residential - Multifamily	Green	Green	Yellow	Yellow	Orange		
Transient Lodging - Motels, Hotels	Green	Green	Yellow	Yellow	Orange	Orange	
Schools, Libraries, Churches, Hospitals, Nursing Homes	Green	Green	Yellow	Yellow	Orange	Orange	
Auditoriums, Concert Halls, Amphitheaters	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange
Sports Arena, Outdoor Spectator Sports	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange
Playgrounds, Neighborhood Parks	Green	Green	Green	Green	Yellow	Orange	Orange
Golf Course, Riding Stables, Water Sports, Cemeteries	Green	Green	Green	Green	Orange	Orange	Red
Office Buildings, Business Commercial and Professional	Green	Green	Green	Green	Yellow	Yellow	Yellow
Industrial, Manufacturing, Utilities, Agriculture	Green	Green	Green	Green	Yellow	Yellow	Orange

Source: Governor's Office of Planning and Research, State of California General Plan Guidelines. 2003.

- 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.
- Conditionally Acceptable**
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional constructions, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
- Normally Unacceptable**
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
- Clearly Unacceptable**
New construction or development should generally not be undertaken.



Table 12.2: Existing Noise Levels at Key Roadway Locations

Roadway	Segment	Noise Levels (CNEL) 100 Feet from Centerline (dBA) ^a	Distance to Contour (feet) ^b		
			70 CNEL	65 CNEL	60 CNEL
22nd Street	23rd Street to Barrett Avenue	58.5	n/a	n/a	80
	Barrett Avenue to Macdonald Avenue	58.1	n/a	n/a	75
23rd Street	South of San Pablo Avenue	59.7	n/a	44	95
	North of Barrett Avenue	61	n/a	54	116
	Barrett Avenue to Nevin Avenue	60.9	n/a	53	115
	Nevin Avenue to Macdonald Avenue	60.8	n/a	53	113
Barrett Avenue	Macdonald Avenue to Cutting Boulevard	62.1	n/a	63	138
	Harbour Way to 22nd Street	60.6	n/a	51	109
	22nd Street to 23rd Street	60.5	n/a	50	109
	23rd Street to Interstate 80	60.2	n/a	n/a	103
Blume Drive	Hilltop Drive to Richmond Parkway	62.5	n/a	68	146
Canal Boulevard	North of West Cutting Boulevard	57.1	n/a	n/a	64
Carlson Boulevard	22nd Street to Cutting Boulevard	60.3	n/a	49	105
	Cutting Boulevard to Potrero Avenue	59.9	n/a	n/a	99
	Potrero Avenue to Bayview Avenue	60.4	n/a	49	106
Castro Street	Bayview Avenue to Interstate 80	61.3	n/a	57	123
	North of Interstate 580	62.3	n/a	66	142
	Cutting Boulevard	Garrard Boulevard to Canal Boulevard	55.9	n/a	n/a
Canal Boulevard to Harbour Way		55	n/a	n/a	n/a
Harbour Way to 23rd Street		58.1	n/a	n/a	75
23rd Street to Carlson Boulevard		60.2	n/a	n/a	103
Carlson Boulevard	Carlson Boulevard to Interstate 80	59.8	n/a	n/a	97



Table 12.2: Existing Noise Levels at Key Roadway Locations (continued)

Roadway	Segment	Noise Levels (CNEL) 100 Feet from Centerline (dBA) ^a	Distance to Contour (feet) ^b		
			70 CNEL	65 CNEL	60 CNEL
Harbour Way	North of Cutting Boulevard	59.4	n/a	n/a	91
Hilltop Drive	West of Blume Drive	64.6	n/a	94	203
	Blume Drive to Interstate 80	66.3	57	123	264
Macdonald Avenue	Harbour Way to 22nd Street	60.3	n/a	48	104
	22nd Street to 23rd Street	60.2	n/a	48	103
	23rd Street to Interstate 80	59.9	n/a	46	99
Marina Bay Parkway	South of Cutting Boulevard	62.4	n/a	67	144
	South of Meeker Avenue	58	n/a	n/a	73
Richmond Parkway	Hilltop Drive to San Pablo Avenue	66.5	n/a	125	270
	San Pablo Avenue to Blume Drive	66.2	n/a	120	259
	Blume Drive to Interstate 80	68.1	75	161	348
San Pablo Avenue	South of Richmond Parkway	60.6	n/a	51	110
	North of 23rd Street	62.2	n/a	65	139
	23rd Street to San Pablo Dam Road	59.7	n/a	45	96
	San Pablo Dam Road to Interstate 80	62.1	n/a	64	138

Source: PBS&J, 2006

Notes: a - Distances are in feet from roadway centerline. The identified noise level at 100 feet from the roadway centerline is for reference purposes only as a point from which to calculate the noise contour distances. It does not reflect an actual building location or potential impact location.
 b - Noise levels are not applicable where contour is located within the roadway lanes.



Key Findings and Recommendations

Richmond, along with other Bay Area cities, is subject to risks from natural hazards ranging from earthquakes, landslides, floods and wildfires. The City's emergency planning and preparation strategy includes participation in the County emergency warning system and communication between police, fire and other emergency services at local and county levels.

Potential for human-caused environmental hazards such as air, soil or water pollution can be minimized and managed through a range of measures such as: applying best practices to storage, handling, transport and disposal of potentially harmful materials; increasing public awareness about safe handling of chemicals; clean-up of contaminated sites; on-site stormwater management; and others.

The City's Fire and Police departments serve a diverse community and a large geographic area that includes 36 neighborhoods, an active port, significant industrial uses, major retail and business centers and several thousand acres of regional parklands. At this General Plan writing, these departments are increasing staff, training personnel and upgrading equipment to meet current and future challenges. While crime and public safety are a concern in a few neighborhoods, residents and businesses in every neighborhood share a desire for improved safety.

While Richmond's mix of land uses contributes to the vibrancy and character of the City, it can heighten noise exposure, especially in instances where

residential development is located near industrial, formerly industrial or mixed-use areas. Traffic, public transit, railroads and business activities are typical noise generators. In addition to land use planning applications, Richmond's noise policy establishes the basis for the regulations prescribed in City ordinances and implemented through the City's Code Enforcement program.

The following key findings and recommendations are derived from the existing conditions in Richmond and the community's future vision.

Finding 1: Richmond is subject to risks from natural hazards.

The Hayward Fault runs through Richmond and a number of other faults are located nearby. Earthquakes can lead to loss of life and property, particularly in the City's low-lying areas.

Positioned at the intersection of San Francisco and San Pablo bays, Richmond hosts an extensive system of creeks and tributaries that have high flood potential during seasonal rains as well as during a 100-year flood event. Heavy seasonal rains have historically caused landslides along City hillsides affecting homes and businesses located in these areas. The region's wildland areas are prone to fires during the summer dry season. Strategies for improving emergency preparedness and planning for natural hazards include:

- Participating in ongoing emergency preparedness and recovery planning in coordination with local emergency services, neighboring municipalities and regional, state and federal agencies;



Well-trained and well-equipped personnel are key to effective emergency response.

- Regulating development and construction practices to reduce the risk to life and property in the event of a natural disaster; and
- Implementing effective stormwater management, creek restoration and flood control measures to address flood hazards and potential flooding due to rising sea level.

Finding 2: Police and fire services are provided throughout the City, but may not adequately meet emergency service demands potentially generated by future growth.

Public safety and emergency response are top priorities in Richmond. These can be improved by:

- Expanding police and fire services and upgrading equipment and technology in order to keep pace with demand and changing conditions; and



Motor vehicles, particularly motorcycles, commonly generate high noise levels in the vicinity of busy freeways or roadways.

- Increasing coordination among local and regional emergency services, as well as communication in the community.

Finding 3: Some environmental hazards in Richmond are caused by human activity.

Given Richmond’s historically industrial economy, soil contamination along San Pablo Bay and in active and inactive industrial areas. Improper use, storage, transport or disposal of potentially harmful substances and polluted stormwater runoff can adversely affect the quality of the City’s surface and groundwater and impact environmental safety. Preventative measures to reduce risk of human-caused hazards include:

- Regulating the safe production, transportation, handling, treatment and disposal of substances that may pose contamination risks;



Noise generated from railroads can be mitigated through physical separation and noise barriers.

- Requiring that future development and industries apply best practices to toxic material disposal and on-site stormwater management;
- Increasing public awareness about safe chemical disposal;
- Requiring buffer zones between hazardous materials facilities and residential uses, shoreline areas, parklands, trails, public and open space facilities, senior and youth facilities; and
- Remediating contaminated sites.

Finding 4: Industries, roadways, railroads and businesses can generate unwanted noise.

Noise from freeway traffic, railroads and some businesses can adversely impact residential and other sensitive areas in the community. Residential development located near industrial, formerly industrial or mixed-use areas may heighten noise sensitivity. Ways to mitigate unwanted noise include:



The BART station in Richmond is the terminating point for the Richmond-Fremont BART line.

- Establishing noise compatible land use standards;
- Encouraging noise-generating areas to reduce their noise impacts;
- Developing guidelines to manage noise impacts and potential conflicts in the community;
- Enforcing noise standards to protect quality of life;
- Mitigating traffic noise impacts and insulating residences exposed to excessive levels of noise; and
- Promoting innovative solutions to create buffers that mitigate impacts where conflicts are unavoidable.



Goals

Goal SN1

Risk Management of Natural and Human-Caused Disasters

Minimize the risk of injury, loss of life, property damage and environmental degradation from seismic activity, geologic hazards, flooding and fire and the storage, use and transport of hazardous materials and operations. Promote a sustainable approach to reduce impacts of natural disasters such as flooding and fire.

Goal SN2

High Levels of Police and Fire Service

Provide a high level of security in the community to prevent and reduce crime, and minimize risks to people, property and the environment from fire.

Goal SN3

Emergency Preparedness

Develop effective mechanisms for a coordinated response to emergencies and natural disasters to best protect residents, businesses and the environment.

Goal SN4

Acceptable Noise Levels

Achieve noise levels consistent with acceptable standards and reduce or eliminate objectionable noise sources. Prevent where possible, or mitigate noise impacts from industries, roadways, railroads and businesses in residential areas and sensitive uses in the community. In addition, apply new technology, buffers and other solutions to reduce excessive noise.



Policies and Implementing Actions

A range of policies and implementing actions are outlined below in relation to each of the goals. These policies mandate, encourage or allow certain actions to be pursued throughout the duration of the General Plan. Together they serve as strategic directions for City staff and partners, highlighting where time and resources should be focused.

Each policy may either be correlated with a number of actions, or simply a single key implementing action. Conversely, some actions may support a range of policies. The policies and implementing actions are organized in two parts. First, all goal-related policies are described and each policy description is followed by a list of its associated implementing actions. Then, implementing actions are described in greater detail in the following section.



GOAL SN1

Risk Management of Natural and Human-Caused Disasters

Policy SN1.1

Geologic and Seismic Safety

Minimize risk of injury, loss of life and property damage from seismically induced and other known geologic hazards. Regulate land use and apply development standards and construction practices to reduce the risk to humans and property in the event of an earthquake or other geological activity.

Policy SN1.2

Flood Management

Minimize the flood hazard risks to people, property and the environment. Address potential damage from a 100-year flood, tsunami, sea level rise and seiche, and implement and maintain flood management measures in all creeks and in all watersheds.

See also: CN3.3

Policy SN1.3

Hazardous Materials Operations

Require safe production, transportation, handling, use and disposal of hazardous materials that may cause air, water or soil contamination. Encourage best practices in hazardous waste management and ensure consistency with City, West Contra Costa County and OSHA guidelines, standards and requirements. Protect Richmond's shoreline and other natural resources from accidental occurrences by controlling the location of new hazardous waste facilities and by limiting the expansion of existing hazardous waste facilities adjacent to the shoreline and along streams or creeks. Coordinate with federal, state and local agencies and law enforcement to prevent the illegal transportation and disposal of hazardous waste.

Policy SN1.4

Electromagnetic Fields

Minimize the potential risk from electromagnetic fields generated by electrical distribution lines and monitor ongoing research to evaluate and reduce risks.



GOAL SN1

Risk Management of Natural and Human-Caused Disasters

Action SN1.A***Earthquake Fault Zone***

Utilize the existing Alquist-Priolo Earthquake Zone Maps to guide the location of development and utilities to safe areas, and enforce use restrictions where necessary. Where development is proposed within the zone, require study of potential impacts related to fault movement in the design of all structures, roadways, utility lines and other facilities.

Action SN1.B***Building Structure Safety Standards***

Regularly review and update building standards and guidelines to ensure that all structures in private, public or quasi-public ownership including municipal buildings are designed to protect people and property from hazards.

Action SN1.C***Geotechnical Review Guidelines***

Regularly review and update geotechnical review guidelines for major redevelopments or new developments to determine the degree of seismic and geologic hazards that might be expected for a particular structure or location. Guidelines should require site-specific geotechnical studies on a case-by-case basis for projects proposed to be built on, or adjacent to, inactive bedrock faults or other potential geologic hazards including geologic anomalies, slope instability or other potentially hazardous conditions. Ensure that the investigation is performed by technically qualified staff.

Action SN1.D***Flood Hazard Zone Designation***

Regularly review and update areas designated as flood hazard zones in the City based on Federal Flood Insurance Rate Maps. Require special design features to prevent damage from flooding for all new development located within the areas subject to flood hazard. Include a special designation for areas that will be impacted by rising sea levels.

Action SN1.E***Dam Failure and Seiche Monitoring***

Meet with East Bay Municipal Utility District (EBMUD) on a regular basis to discuss the viability of the San Pablo Dam, potential failures, and the EBMUD's Emergency Action Plan.

Action SN1.F***Water Quality Regulation***

Strengthen regulations that prohibit the dumping of litter, fill and waste materials into the creeks. Whenever possible, prohibit major sewer trunk lines and water pressure lines from being routed together in areas subject to failure in order to avoid contamination and flooding when pipelines break. Educate the public about flooding and health hazards associated with these activities.



GOAL SN1

Risk Management of Natural and Human-Caused Disasters

Action SN1.G

Hazardous Waste Management Plan

Update the City's Hazardous Waste Management Plan every five years. Include best practices in hazardous waste management. Develop the plan in accordance with City, West Contra Costa County and OSHA guidelines, standards and requirements.

Action SN1.H

Hazardous Material Regulation

Regularly review and update regulations for the production, use, storage, disposal, transport and treatment of hazardous materials to reduce risk to human and environmental health.

Action SN1.I

Hazardous Waste Reduction

Reduce or eliminate hazardous waste generation to the maximum extent feasible through the use of effective waste strategies including: reductions in the use of hazardous substances; the use of safe substitutes; recycling; resource recovery and reuse; and on-site treatment.

Action SN1.J

Hazardous Materials Response Plan

Regularly review and update guidelines, protocols and strategies to respond to a local hazardous materials spill. Create a response plan as part of a comprehensive Hazardous Waste Management Plan.

Action SN1.K

Hazardous Waste Public Awareness Program

Develop an awareness program to expand public engagement in the planning and handling of hazardous waste in the community, especially at home. Educate the community about roles and responsibilities in the event of an emergency. Distribute information to the public in multiple ways and in multiple languages. Create a response plan as part of a comprehensive Hazardous Waste Management Plan.

Action SN1.L

Electromagnetic Field Monitoring

Monitor ongoing research related to exposure from electromagnetic fields. Identify mitigation measures and criteria for the location of electrical lines within the City limits consistent with current research and with Federal and State law.



GOAL SN2

High Levels of Police and Fire Service

Policy SN2.1***Crime Prevention and Response***

Promote crime prevention strategies and provide a high level of response to incidents. Emphasize and prioritize crime prevention strategies such as pedestrian-scale lighting in targeted areas. Timely response to incidents and monitoring areas with high crime rates should be part of a comprehensive strategy to reduce crime in the community.

Policy SN2.2***Level of Service***

Provide a high level of police and fire service in the community. Secure adequate facilities, equipment and personnel for police and fire and collaborate with neighboring jurisdiction and partner agencies to adequately respond to emergencies and incidents in all parts of the City.

Policy SN2.3***Fire Safety***

Regularly update policies that will protect the community and its urban and natural areas from fire hazards. Emphasize prevention and awareness of fire safety guidelines to minimize risk and potential damage to life, property and the environment. In areas designated by the Richmond Fire Department as having a high fire hazard, ensure adequate fire equipment, personnel, firebreaks, facilities, water and access for a quick and efficient response in any area.



GOAL SN2

High Levels of Police and Fire Service

Action SN2.A

Public Safety Design Guidelines

Develop and adopt design guidelines that deter criminal activity in neighborhoods, streets and public areas. Include guidelines for the design of play areas, parks, sports facilities, streets and sidewalks, plazas and urban pocket parks, and housing and commercial sites, among others. Require the early integration of crime prevention strategies such as community policing in new development and redevelopment projects including the involvement of the Police Department in the review of major projects in high-crime areas of the City.

Include guidelines for parks and recreation facilities with particular focus on the following five areas: design and orientation of buildings, restrooms and parking areas; defensible space with no hidden areas or structures that block visibility and natural surveillance; ownership and control over public space; cameras and other technologies; lighting; and signage.

See also: ED1.A; LU2.C; PR2.C; HW1.H

Action SN2.B

Level of Service Monitoring

Regularly review response times for police, fire and emergency medical calls. Use the results of the evaluation to gauge the need for additional facilities, equipment and personnel, and identify specific geographic areas of the City that may not be adequately served.

Action SN2.C

Regional Emergency Coordination Plan

Collaborate with regional agencies and neighboring jurisdictions to develop and implement a regional emergency coordination plan and agreement for police, fire and emergency medical services.

Action SN2.D

Fire Prone Area Designation

Designate areas in Richmond that are particularly prone to fire hazards and make this information available to the community. Consider adopting wildfire development guidelines for development adjacent to fire prone areas.

Action SN2.E

Fire Safety Public Awareness Program

Develop programs that inform and educate the community about potential risks, resources and roles and responsibilities for addressing fire safety. Include staffing needs in the Fire Prevention Bureau to effectively implement the program. Inform residents of homes adjacent to public lands of their responsibility to provide fire breaks behind their homes.



GOAL SN2

High Levels of Police and Fire Service

Action SN2.F

Fire Station and Fire Services Strategic Plan

Regularly review and update the Fire Station and Fire Services Strategic Plan. The plan should outline steps needed to obtain an Insurance Services Office Rating of “two” for the City of Richmond.



GOAL SN3 Emergency Preparedness

Policy SN3.1

Emergency and Disaster Preparedness

Maintain staff and facilities that will continue to support a coordinated and effective response to emergencies and natural disasters throughout the City. Coordinate with neighboring jurisdictions, local employers and industries to make sure that emergency preparedness and disaster response programs equitably serve all parts of the City. Continue to maintain adequate police and fire staffing, facilities, equipment and maintenance in order to protect the community.

See also: HW3.3



GOAL SN3 Emergency Preparedness

Action SN3.A

Disaster Preparedness and Recovery Plan

Require that all development and redevelopment projects comply with the City's Disaster Preparedness and Recovery Plan. Regularly review and update the plan and expand public training and information.

See also: HW3.D; CF2.D; EC6.F

Action SN3.B

Multi Jurisdictional Coordination

Maintain a multi-jurisdictional disaster preparedness program with other West Contra Costa County cities, utility companies and the East Bay Regional Park District. Continue to participate in the Operation Area Disaster Council to pool resources and better coordinate a comprehensive program of disaster preparedness. Coordinate emergency police and fire services and facilities with other jurisdictions. Continue to maintain aid agreements with other fire protection agencies in West Contra Costa County. Continue to participate in the joint Contra Costa and Alameda County radio communications program.

Action SN3.C

Emergency Preparedness Exercises

Continue to hold joint fire, hazardous materials incidents, disaster drills and earthquake response exercises with adjacent communities, utility companies, larger businesses and industry, the East Bay Regional Park District and the State Office of Emergency Services in order to test and improve preparedness capabilities.

Action SN3.D

Emergency Operations Center

Maintain a permanent emergency operations center in accordance with the City of Richmond Emergency Operations Plan.

Action SN3.E

Corporation, Industry and Utility Emergency Plans

Regularly meet with large employers to develop and maintain up-to-date emergency plans for use in the event of a catastrophic event.



GOAL SN4 Acceptable Noise Levels

Policy SN4.1

Noise Levels

Work with regulatory agencies to monitor and enforce noise standards in the community. Reduce or mitigate objectionable noise sources and require new noise sources to comply with noise standards. Regulate both indoor and outdoor noise levels to protect health and safety. Use a combination of noise standards and existing noise levels to determine impacts and mitigation measures.

See also: HW9.8

Policy SN4.2

Land Use Compatibility

Minimize conflicts between land uses to protect wetlands, marshlands, and creeks, human and environmental health and safety, preserve community character and retain job generating activities that have long-term viability. Types, intensities and ranges of use and development should be compatible with existing uses and should minimize or eliminate conflicts that adversely impact wetlands, marshlands, creeks, mudflats, public safety, human or environmental health or generate nuisances. All new development must avoid or mitigate to the greatest extent feasible potential negative impacts such as noise, odors, and pollution.

Consistent with the City's Industrial Buffer Zone Ordinance, prohibit the location of residential uses in the area between Harbour Way South and Marina Way South and between Interstate 580 and Hall Avenue.

Encourage existing larger industries that have surplus land to develop modern industrial parks that could attract new and existing industries and facilitate a reduction of existing and future land use conflicts.

New development should complement the character and scale of existing neighborhoods, cultural resources, historic structures and landscapes. In particular, existing industrial and residential uses can successfully coexist through well-conceived circulation and urban design strategies including buffers (which may be in the form of sound walls and/or enclosed buildings and appropriate transitional habitat zones between wetlands, marshlands, creeks, and mudflats) and transitional uses, rerouting of truck traffic and design components that mark transitions in land use. Similar to other cities that host mixed uses, consider requiring land use covenants for new development in areas where new uses may generate a perception of conflict with existing uses. Require sufficient visual open space and/or landscaped screening between industrial operations and adjacent residential or recreational activities in order to create adequate buffers.

See also: ED7.2; ED8.2; LU5.3



GOAL SN4 Acceptable Noise Levels

Policy SN4.3

Transportation-Related Noise

Monitor changes in technology that will prevent and mitigate transportation related noise impacts on residential and sensitive uses in the community. Support traffic and freeway improvements that will reduce noise impacts of vehicles. Alternatives to sound walls should be considered where possible.

See also: HW9.9



GOAL SN4 Acceptable Noise Levels

Action SN4.A

Noise Study Report Requirement

Require proposed commercial and industrial uses with potential noise and vibration-producing activities or new noise-sensitive uses that locate in an area with day-night average sound level (Ldn) of 55 or greater to provide noise study reports. The report should identify noise mitigation measures that limit noise to an acceptable level compared to existing conditions.

Action SN4.B

Noise Study Guidelines

Regularly review and update guidelines for the analysis of noise impacts and conflicts in the community. Ensure that the effect of brief loud noises such as locomotive horns are analyzed and that noise limitations include a maximum acceptable noise level for noises of short duration for interior sleeping areas of residential and other uses. Use the noise analysis to review development proposals to assure consistency with noise standards. Consider the following measures for mitigating noise impacts on adjacent properties:

- Screen and control noise sources such as parking, outdoor activities and mechanical equipment.
- Use technology to reduce noise impacts in instances where setbacks cannot be increased.
- Use state of the art noise-abating materials technology and construction standards and double or triple glazed windows to meet noise standards.
- Control hours of operation, including deliveries and trash pickup to minimize noise impacts.
- Use the Future Noise Contours data and Municipal Codes on noise to determine if additional noise studies are needed.



GOAL SN4 Acceptable Noise Levels

Action SN4.C

Noise Ordinance

Regularly review and update the noise ordinance to regulate noise-generating activities and proposed developments near noise-generating activities based upon changes in state law. Where feasible, limit the impact of noise sources on noise-sensitive uses and consider noise and vibration impacts in land use planning decisions. Require mitigation of potential noise impacts on adjacent properties. Enforce the Land Use Compatibility Standards presented in the State of California's General Plan Guidelines when siting new uses in existing noise environments. Require new residential development and other noise sensitive uses near railroad crossings or other sources of brief loud noise to be analyzed for noise compatibility using standards based on both 24-hour averages and maximum instantaneous interior noise levels to determine the noise effects on sleep disturbance and other essential human functions. Encourage projects to use site planning and building orientation principles as well as state-of-the-art noise-abating materials, technology and construction standards to minimize noise.

Reduce noise levels generated by roadways, railroads and other facilities by: encouraging the California department of transportation (Caltrans) to institute noise reduction measures on existing and future freeways to lessen noise impacts on areas immediately adjacent to the freeway; encouraging public agencies to ensure that their programs are consistent with those of the City as they relate to noise control; and urging strict enforcement of current federal railroad noise emission standards by the U.S. Department of Transportation.

See also : HW9.R

Action SN4.D

Quiet Zone Expansion

Establish the entire City of Richmond as a railroad quiet zone and complete a study to determine the improvement costs for all of Richmond's at-grade railroad crossings.

See also: HW9.S

Action SN4.E

Construction Traffic Plan Guidelines

Maintain guidelines for preparing traffic plans to mitigate noise, traffic and dust during major construction activity. Continue to require construction traffic plans for all developments of ten or more homes or commercial projects larger than five acres in size to regulate vehicle speeds, dust and noise mitigation, hours of operation, phased fencing plans and safety standards. The plan should ensure the safety of the public and employees during construction of major projects.



Summary of Implementing Actions

The table presented on the following pages is a tool for guiding implementation of the City’s Public Safety and Noise Element. Organized by the community’s broad goals, the table provides an overview of policies and implementing actions detailed in the previous section. Each action is linked to a designated lead responsible party. Related policies are identified in the final column.

Goal SN1: Risk Management of Natural and Human-Caused Disasters

Action		Lead Responsibility	Supporting Policies
SN1.A	Earthquake Fault Zone	Planning and Building Services	SN1.1
SN1.B	Building Structure Safety Standards	Planning and Building Services	SN1.1
SN1.C	Geotechnical Review Guidelines	Planning and Building Services	SN1.1
SN1.D	Flood Hazard Zone Designation	Planning and Building Services	SN1.2
SN1.E	Dam Failure and Seiche Monitoring	Planning and Building Services	SN1.2
SN1.F	Water Quality Regulation	Planning and Building Services	SN1.2, SN1.3
SN1.G	Hazardous Waste Management Plan	Fire	SN1.3
SN1.H	Hazardous Material Regulation	Fire	SN1.3
SN1.I	Hazardous Waste Reduction	Planning and Building Services	SN1.3
SN1.J	Hazardous Materials Response Plan	Fire	SN1.3
SN1.K	Hazardous Waste Public Awareness Program	Fire	SN1.3
SN1.L	Electromagnetic Field Monitoring	Planning and Building Services	SN1.4



Goal SN2: High Levels of Police and Fire Service

Action		Lead Responsibility	Supporting Policies
SN2.A	Public Safety Design Guidelines	Planning and Building Services	SN2.1
SN2.B	Level of Service Monitoring	Planning and Building Services	SN2.1, SN2.2
SN2.C	Regional Emergency Coordination Plan	Fire	SN2.1, SN2.2
SN2.D	Fire Prone Area Designation	Fire	SN2.3
SN2.E	Fire Safety Public Awareness Program	Fire	SN2.3
SN2.F	Fire Station and Fire Services Strategic Plan	Fire	SN2.3

Goal SN3: Emergency Preparedness

Action		Lead Responsibility	Supporting Policies
SN3.A	Disaster Preparedness and Recovery Plan	Fire	SN3.1
SN3.B	Multi Jurisdictional Coordination	City Manager's Office	SN3.1
SN3.C	Emergency Preparedness Exercises	Police	SN3.1
SN3.D	Emergency Operations Center	Police	SN3.1
SN3.E	Corporation, Industry and Utility Emergency Plans	Planning and Building Services	SN3.1

Goal SN4: Acceptable Noise Levels

Action		Lead Responsibility	Supporting Policies
SN4.A	Noise Study Report Requirement	Planning and Building Services	SN4.1, SN4.2
SN4.B	Nose Study Guidelines	Planning and Building Services	SN4.1, SN4.2
SN4.C	Noise Ordinance	Planning and Building Services	SN4.1, SN4.2
SN4.D	Quiet Zone Expansion	City Manager's Office	SN4.3
SN4.E	Construction Traffic Plan Guidelines	Planning and Building Services	SN4.3



Regulatory Framework

A number of regulatory tools and City departments contribute to planning for public safety and noise.

Departments and Agencies

Police Department

The Richmond Police Department reduces crime and improves public safety. There are 221 sworn officers and civilian members of the Police Department. The Department utilizes the Neighborhood Beat Policing model, instituted in June 2006, to increase police presence in neighborhoods and establish strong relationships between officers and the public. The Code Enforcement Unit within the Police Department works to aggressively deal with environmental factors that can perpetuate crime including timely graffiti abatement, prompt attention to abandoned vehicles and illegal dumping, and also rigorous pursuit of noise violations (<http://www.ci.richmond.ca.us/police>).

Fire Department

The Richmond Fire Department protects people, property and the environment from the harmful effects of fire, hazardous materials and natural acts and provides emergency medical care and information on programs and services that affect personal and public safety (<http://www.ci.richmond.ca.us/fire>).

Office of Emergency Services

The Office of Emergency Services (OES) provides emergency planning and training to residents and

businesses in Richmond. It also coordinates the City's response to emergencies and operates a community warning system. This system is designed to alert, notify and educate the public in the event of an earthquake, natural disaster or other large-scale emergency event. OES coordinates the alert system with the community warning system for Contra Costa County which provides sirens and emergency radio broadcasts for the entire County. The OES also publishes informational materials and community guides on emergency preparedness (<http://www.ci.richmond.ca.us/oes>).

Planning and Building Services Department

The Planning and Building Services Department oversees all buildings and facilities that are subject to the California Building Code. This department is responsible for entitling all construction and reconstruction following a catastrophic event that results in significant damage to the built environment.

Plans and Ordinances

Hazardous Materials Contingency Plan

The City's Fire Department oversees the Hazardous Materials Contingency Plan which outlines roles, responsibilities and procedures in case of a hazardous materials incident.

California Noise Control Act and Guidelines

The State of California's Noise Control Act addresses unwanted and hazardous noise as a public health and welfare issue. The Act establishes criteria and guidelines for use in setting standards for exposure to noise.

Title 24 of the California Code of Regulations

Title 24 codifies the minimum noise insulation performance standards that are required for new hotels, motels, dormitories, apartment houses and dwellings other than detached single-family homes. Title 24 calls for interior noise levels from external sources not to exceed 45 dBA CNEL in any room of the new dwelling.

City of Richmond Municipal Code

Chapter 9.52 of the Municipal Code provides regulations for noise within City limits. Section 9.52.090 relates to prohibited noises, 9.52.100 relates to exterior noise standards and 9.52.110 related to temporary noise-generating equipment.



Notes

1. Official California Legislative Information Website. <http://www.leginfo.ca.gov/>.
2. California Noise Control Act, 1973.
3. Flood Insurance Study Update, Richmond (Community No. 060035). Flood Emergency Management Agency. November, 1993.

Cover Artwork

1. Left: Photograph by Richmond Fire Department
2. Right: “Blue Collar Workers” by Virginia Jourdan, Richmond Resident



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