8 SAFETY AND NOISE

The purpose of the Safety and Noise Element is to identify the natural and man-made public health and safety hazards that exist within the City, and to establish preventative and responsive policies and programs to mitigate their potential impacts. This Element addresses geologic hazards, flood hazards, hazardous materials, wildfire hazards, and safety services. It also includes policies on natural hazards mitigation planning, which respond to the Federal Disaster Mitigation Act of 2000 and the Federal Emergency Management Agency's implementing regulations and support the County's Multi-Jurisdictional Local Hazard Mitigation Plan. Airport safety is addressed in the Land Use and Circulation Elements, as well as in the Noise section of this chapter.

The purpose of the Noise section is to identify the noise sources that exist within the City, and to establish policies and programs to mitigate their potential impacts through both preventative and responsive measures. The regulation of some noise sources such as railroad operations and aircraft operations is overseen by state and federal agencies. This element has a direct correlation with the land use, circulation, and housing elements. It guides the location of industrial land uses and transportation facilities, since they are common sources of excessive noise levels. This element also guides the location of particularly noise–sensitive uses, such as residences, schools, churches, and hospitals, so that they may be less affected by noise.

8.1 SEISMIC AND GEOLOGIC HAZARDS

Geologic and soils hazards include steep slopes and landslides, subsidence, expansive soils, and soils with naturally-occurring asbestos. Additional information on soils and erosion within the Planning Area is in the Open Space & Conservation Element. Seismic hazards related to earthquakes include groundshaking and ground failures, such as liquefaction, lateral spreading, ground lurching, seiches, mudslides, landslides, and soil slumping.

Geology

The Planning Area is in a basin bounded by the Sierra Nevada foothills and mountains to the east and the Coast Ranges to the west, and filled with deep layers of sediment from the Sierra Nevada. The St. Johns River flows through the northeastern portion of the Planning Area, along with smaller streams and canals. The area is basically flat, lying at an elevation of approximately 330 feet above sea level. As described in Chapter 6, surface soils in the Planning Area range from fine sandy loam and loam to alkali soils. Some soils have the potential to present moderate geologic hazards to building, due to their susceptibility to erosion or to expansion and contraction.

The Safety Element identifies natural and manmade hazard and establishes preventative and responsive policies.

Expansive Soils

Expansive soils have the potential to shrink or swell significantly with changes in moisture content, which can limit the development capacity of an area. The type and amount of the silt and clay content in the soil will determine the amount of shrink or swell associated with the various levels of water content. Soils comprised of sand and gravel are not expansive soils.

Expansive soils are most likely to be found in basins and basin rims. Any structure located on expansive soils can be significantly damaged should the soil suddenly shrink or swell. Structural damage may result over a long period of time, usually from inadequate soils and foundation engineering or the placement of structures directly on expansive soils. Construction in areas of expansive soils may require major subexcavation and replacement of existing materials with more stable soils.

Soil types considered to have a moderate "shrink-swell" potential underlie about 2,480 acres in the Planning Area, and are located near the Highway 99/198 interchange, north of the St. Johns River, and in the northwest near the intersection of Road 80 and Avenue 328. See **Figure 6-3**: Erosion Susceptibility and Shrink-Swell Potential, in Chapter 6.

Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. Some areas in the Central Valley have subsided more than 20 feet during the past 50 years.[1] Subsidence may occur in the Planning Area, particularly in areas with high clay content soils or due to groundwater withdrawal.

Seismic Hazards

There are no known active earthquake faults in the Planning Area. The closest active faults are Owens Valley fault group and Sierra Nevada Fault Zone, 75 miles to the east of the Planning Area, the San Andreas Fault Zone (60 miles to the west), and an unnamed fault group north of Bakersfield (60 miles to the south).[2] Major earthquakes such as the 1906 San Francisco, 1952 Kern County, and 1983 Coalinga quakes were felt and caused some minor to moderate property damage in Visalia. It is possible, but unlikely, that previously unknown faults could become active in the area. The State Geologist has not delineated any Alquist-Priolo Earthquake Fault Zones within or near the Planning Area.

Groundshaking

The most significant hazard associated with earthquakes for the Visalia area is ground shaking caused by earthquakes along the San Andreas fault to the west or Owens Valley fault to the east. However, the hazards due to groundshaking are considered to be low, according to the California Geological Survey and US Geological Survey's Probabalistic Seismic Hazard Analysis. The analysis is based on historic

1 Tulare County, General Plan Background Report, October 2004. pg. 8-11.

2 USGS Fault Maps, http://quake.wr.usgs.gov/info/faultmaps

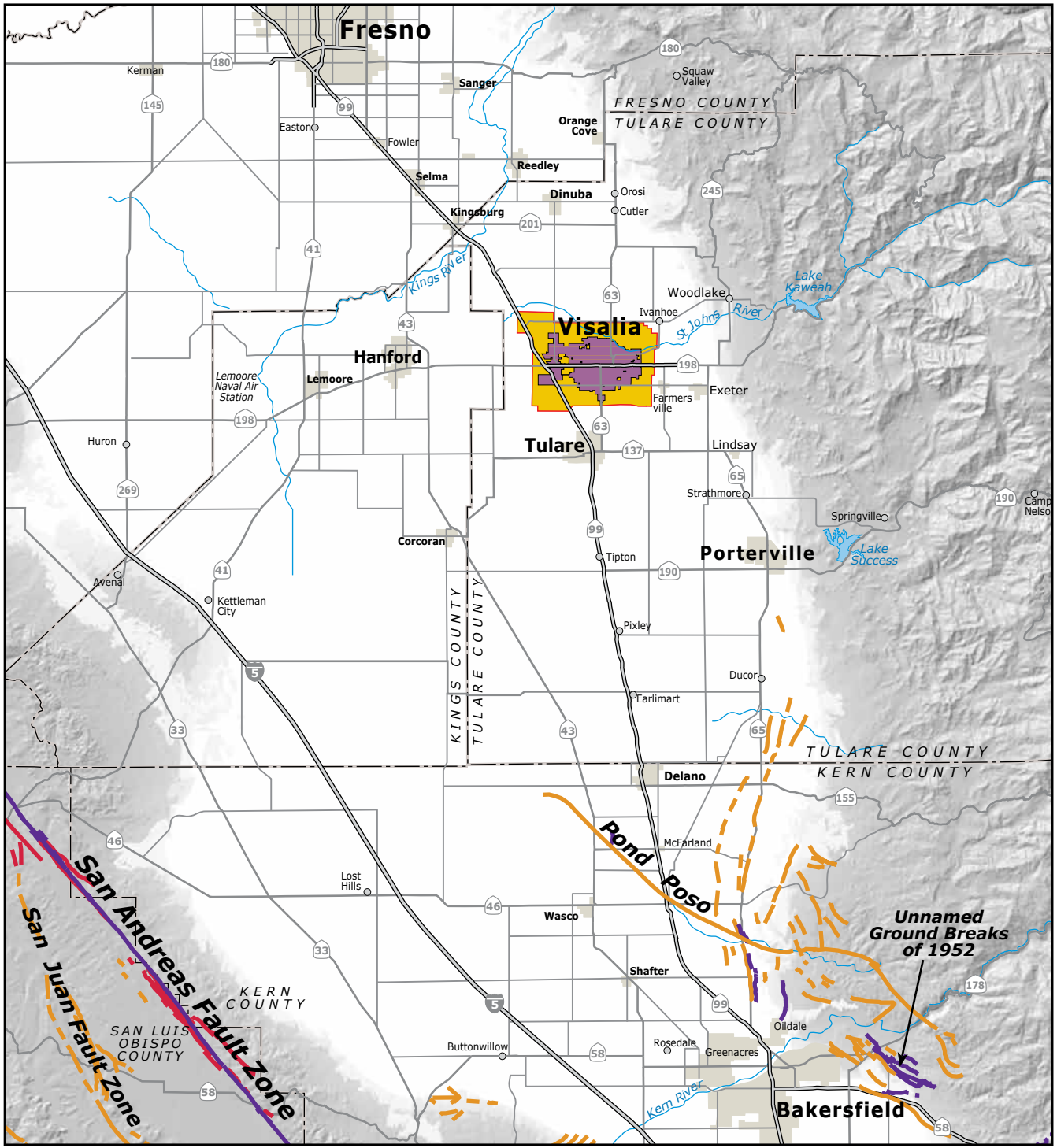


Figure 8-1: Regional Faults

- Active Fault with Historic (last 200 years) Displacement
- Active Fault with Holocene (last 11,000 years) Displacement
- Potentially Active Fault with Quaternary (last 1,600,000 years) Displacement
- Visalia City Limits
- Planning Area
- County

Source: Department of Conservation, California Geological Survey, 2005.

0 5 10 20
MILES

New structures are required to adhere to current California Uniform Building Code (CUBC) standards. (Top)

In the Planning Area, hazards due to ground shaking are considered to be low. Damage is most likely to occur to older masonry buildings. (Bottom)

earthquakes, slip rates on major faults and deformation throughout the region and the potential for amplification of seismic waves by near-surface geologic materials. The resulting earthquake shaking potential is used in developing building code design values, estimating future earthquake losses and prioritizing earthquake retrofit. In the Planning Area, low levels of shaking, with less frequency, are expected to damage only weaker masonry buildings. However, very infrequent earthquakes could still cause strong shaking.[3]

Ground Failure

Earthquake-induced ground failures, such as ruptures, lateral spreading, ground lurching, seiches, or mudslides, are unlikely to occur in the Planning Area because of its relatively stable geologic formation and lack of active faults.

Seismic Safety

Existing structures in the Planning Area could be affected by the types of earthquake-induced effects listed above, but to varying degrees based on length, intensity, and distance of the earthquake from a given building. New structures are required to adhere to current California Uniform Building Code (CUBC) standards for Seismic Zone 3, and provide adequate design, construction and maintenance of structures to prevent exposure of people and structures to major geologic hazards. In particular, any critical facilities such as hospitals, fire and police stations, and emergency communications and operations centers must be adequately designed, constructed and maintained with the goal of remaining functional after a large seismic event. The use of flexible utility connections, building anchors, and adequately reinforced concrete can reduce the loss of life and damage to buildings for human occupancy.

3 California Geological Survey and US Geological Survey, Earthquake Shaking Potential for California, Map Sheet 48 Revised 2008). 2008. http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS48_revised.pdf

Objectives

S-O-1 Minimize risks of property damage and personal injury posed by geologic and seismic hazards.

Policies

S-P-1 Work with Caltrans to seismically retrofit or replace local ramps and freeway overpass bridges that are categorized as structurally deficient by Caltrans, are located in high ground shaking areas, and/or are necessary for first responders to use during and/or immediately after a disaster or emergency.

S-P-2 Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.

S-P-3 Update the City's Emergency Preparedness Plan to include an Earthquake Disaster Plan, and coordinate procedures with the County Emergency Services.

S-P-4 Establish a public relations and education program to increase community awareness for emergency preparedness, including "community emergency preparedness teams."

Involving residents and having voluntary programs to help people prepare is the key to an effective program.

S-P-5 Update subdivision and zoning ordinance review criteria to include seismic considerations.

S-P-6 Continue to inspect unoccupied existing unreinforced masonry structures and "critical facilities" constructed prior to 1948 and develop condemnation procedures to be included in a dangerous building ordinance.

S-P-7 Consult with a qualified engineering geologist to periodically review the Safety Element.

8.2 FLOOD HAZARDS

Visalia is subject to flood hazards, but not inundation hazards related to dam failure. Since the climate is relatively arid and development continues to increase the amount of impervious surfaces, surface run-off and storm drainage must be managed. The average annual precipitation in the Visalia area is approximately 11 inches. However, portions of the Kaweah watershed which contributes to flooding in Visalia have a mean annual precipitation of 40 inches. Eighty–five percent of the annual precipitation occurs between November and April.

In the Planning Area, waterways and surface runoff generally flow from east to west, terminating in the Tulare Lake Basin. Channels include the St. John's River, Modoc Ditch, Mill Creek Ditch, Mill Creek, Tulare Irrigation District (TID) Canal, Packwood Creek, Cameron Creek, Deep Creek, Evans Creek, Persian Ditch (See **Figure 8-2**). Most watercourses are intermittent drainages that receive a significant portion of flow from storm water runoff during the rainy season. This intermittent flow is typically supplemented from water released from Terminus Dam on the Kaweah River.

Historically, runoff was disposed of by directing it to the natural creeks, rivers and irrigation ditches that flow through the city. (Top)

Approximately 25 percent of the total Planning Area is located within the 100-year floodplain and another 60 percent is within the 500-year floodplain. (Bottom)

Monthly mean outflows from Lake Kaweah, the reservoir created by Terminus Dam, range from 81 cubic feet per second (cfs) in October to 1,747 cfs in June. In general, outflows are highest in the late spring and early summer and lowest in the fall. The lake is maintained for flood control, and water is allowed to drain as quickly as possible after heavy rains. At times, the reservoir's capacity has not been sufficient to handle flows, resulting in flooding downstream. Outflow from Lake Kaweah drains down into the Kaweah River Delta system and through the many drainages and creeks that meander through the City of Visalia.

The City's municipal storm drainage system consists of drainage channels, 23 detention and retention basins, 33 pump stations and 250 miles of pipe. Historically, runoff was disposed of by directing it to the natural creeks, rivers and irrigation ditches that flow through the city. To mitigate the increased runoff due to urbanization, the City has invested thousands of dollars in the purchase of land and the construction of permanent retention basins. See the Parks, Schools, Public Facilities, and Utilities Element for more information about storm drainage facilities.

Flood Zones

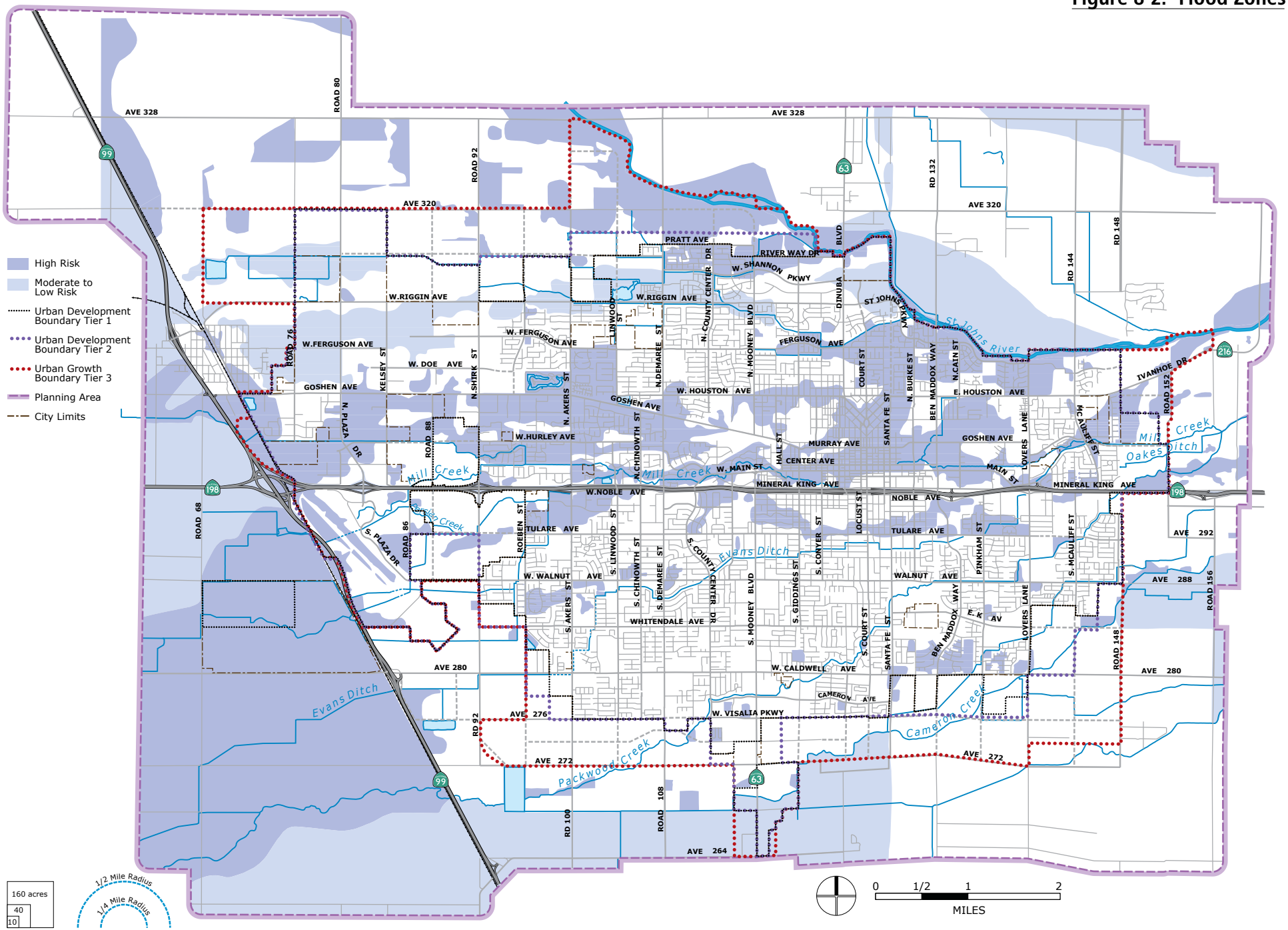
Flood zone mapping by the Federal Emergency Management Authority (FEMA) indicates that approximately 25 percent of the total Planning Area is located within high risk areas within the 100-year floodplain and another 60 percent is in moderate risk areas within the 500-year floodplain (see **Table 8-1**). FEMA updated the Flood Insurance Rate Map panels for Visalia in June 2009 to reflect the infrastructure improvements made to capture and convey storm water within the city. As shown in **Figure 8-2**, some areas of the City, in particular in the Northeast and Northwest, are at risk of flooding from a 100-year storm event. Most of the rest of the City is within the 500-year floodplain.

Table 8-1: Floodplains in Planning Area

Type	*Acres*	*Percent of Planning Area*
100 Year Floodplain	16,145	25%
500 Year Floodplain	39,027	60%
Area Outside Floodplain	9,949	15%
Farmland of Local Importance	1,630	2%

Source: FEMA, 2009.

Figure 8-2: Flood Zones



Objectives

S-O-2 Protect the community from risks to life and property posed by flooding and stormwater runoff.

Policies

Flood Hazards

S-P-8 Reinforce the City's transportation infrastructure for protection from flooding through activities such as elevating the road, installing culverts beneath the road, or constructing a higher bridge across an area that experiences regular flooding.

S-P-9 Implement post-fire debris flow and channel treatments, such as seeding, mulching, and checking dams and debris racks, as needed.

S-P-10 Implement recommendations contained in the County Flood Control Master Plan that are within the City's jurisdiction.

S-P-11 Create and implement a public outreach program that informs property owners located in flood hazard and levee inundation areas about voluntary flood insurance.

S-P-12 Increase participation in the National Flood Insurance Program by enhanced floodplain management activities that may allow property owners to receive a discount on their flood insurance.

S-P-13 Work with State and federal agencies to create a program to acquire, relocate, or elevate critical facilities and residential structures, in particular those that have been identified as Repetitive Loss properties that are located within the 100-year floodplain.

S-P-14 Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide Digital Flood Insurance Rate Map, Community Assessment Visits, and/or the California Department of Water Resources oversight.

8.3 HAZARDOUS MATERIALS

The California Code of Regulations defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed.[4] Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. A hazardous materials incident involves the uncontrolled release of a hazardous substance during storage, use or transport.

4 California Code of Regulations, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10

Laws and Regulations

Federal and State laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, transported and disposed of, and in the event that such materials are accidentally released, to prevent or mitigate injury to health or the environment. Laws and regulations require hazardous materials users to train employees to manage them safely. The primary Federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (EPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). In many cases, California State law mirrors or is more restrictive than federal law, and enforcement of these laws has been delegated to the State or a local agency.

The State Water Resources Control Board (SWRCB) administers the aboveground storage tank (AST) program and the underground storage tank (UST) program. The AST program covers facilities that store petroleum in a single tank, or multiple tanks with an aggregate capacity in excess of 1,320 gallons, and requires that tank owners or operators file a storage statement, pay a facility fee, and prepare and implement a Federal Soil Prevention, Control and Countermeasure (SPCC) Plan. The SPCC Plan must identify procedures, methods, and equipment in place at the facility to prevent discharges of petroleum from reaching navigable waters. State laws governing USTs specify requirements for permitting, construction, installation, leak detection monitoring, repairs, release reporting requirements, corrective actions, cleanup, and closure.

In Visalia, the Tulare County Environmental Health Division (TCEHD) is the local agency responsible for the implementation of the state-mandated Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. Tulare County has prepared a Hazardous Materials Business Plan and a Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) which serves as the County's emergency response plan for hazardous materials emergency incidents. In addition, the TCEHD acts as lead agency to ensure proper remediation of leaking underground petroleum storage tank sites and certain other contaminated sites. TCEHD provides three permanent Household Hazardous Waste (HHW) drop-off facilities in the County including one in Visalia, and operates mobile collection events throughout the year. These services are available free of charge to any Tulare County resident.

The City of Visalia Fire Department provides some oversight of hazardous materials. The Fire Department is responsible for conducting inspections for code compliance and fire-safe practices and for investigation of fire and hazardous materials incidents. The Fire Department regulates explosive and hazardous materials under the Uniform Fire Code, and permits the handling, storage and use of any explosive or other hazardous material.

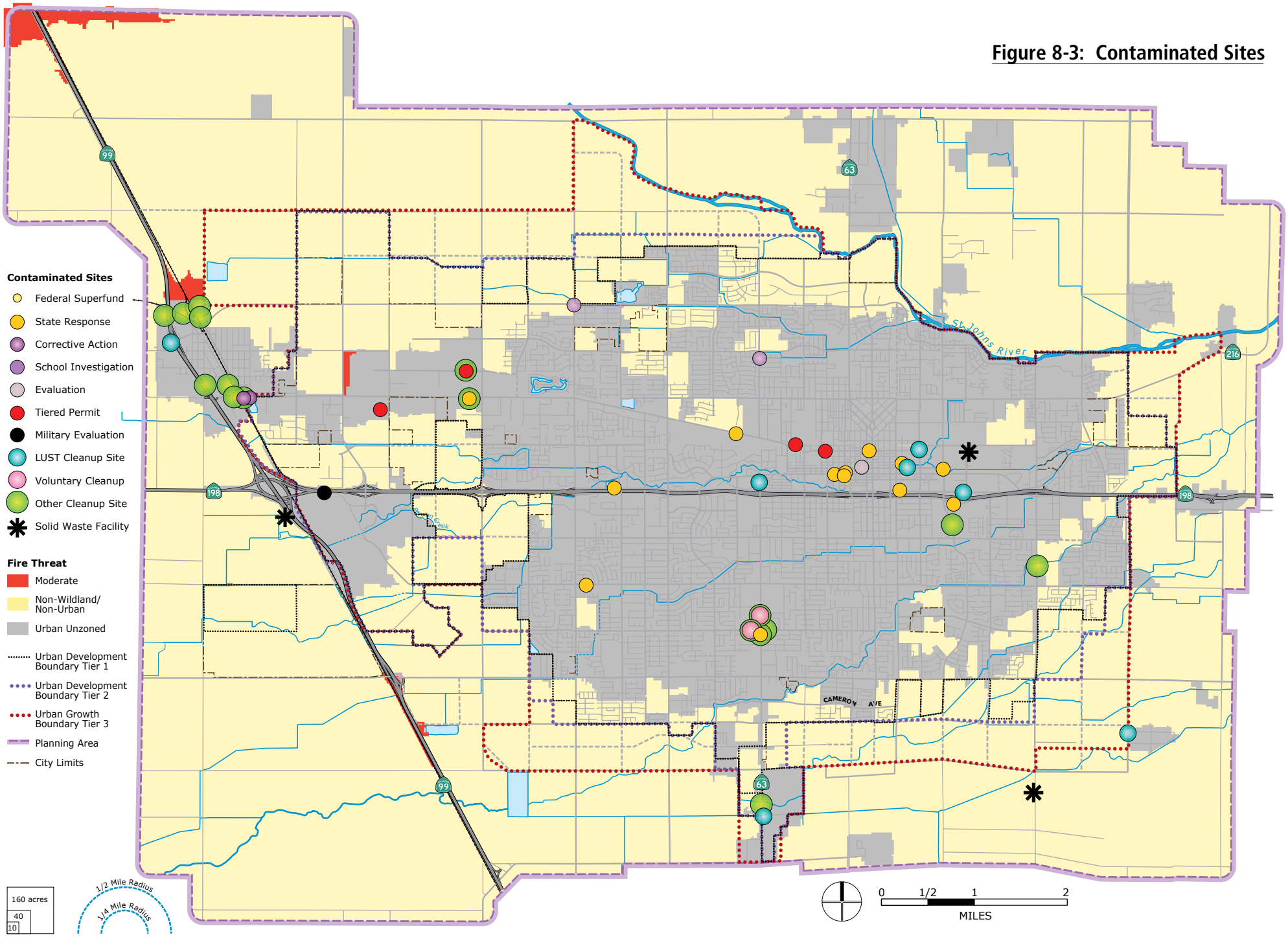
Hazardous Materials Sites

Areas where historic or on-going activities have resulted in the known or suspected release of hazardous materials into the soil and groundwater are identified by the Department of Toxic Substances Control and State Water Resources Control Board. Many contaminated sites are associated with leaking under-

Many contaminated sites are associated with leaking underground storage tanks which have caused groundwater infiltration by gasoline and related compounds. (Top)

State and federal legislation requires every business that handles hazardous materials report their inventories to the local fire department. This helps the City handle emergency incidents more effectively. (Bottom)

Figure 8-3: Contaminated Sites



ground storage tanks which have caused groundwater infiltration by gasoline and related compounds, or operations which have resulted in groundwater contamination by PCE. Sites with ongoing or active cleanup programs are shown on **Figure 8-3,** and detailed in Table A-1 in Appendix A. Most sites are associated with retail and commercial uses (e.g., gas stations, convenience stores, car washes, etc.) or dry cleaners, and some are associated with local industrial uses.

The Planning Area contains one Superfund site, where electrical poles were treated between the 1920s and the 1980s. The Regional Water Quality Control Board (RWQCB) initiated cleanup in 1976, and the site was placed on the National Priorities List (NPL) in 1987, with the Department of Toxic Substances Control as lead agency. Work was completed in 2006, and achievement of water and soil standards was certified in 2009. Land use restrictions on the site prevent residential use, hospitals, schools, daycare facilities, or any use which disturbs the soil below a depth of ten feet.

Not including cleanup sites at current or former dry cleaners, the Department of Toxic Substances Control has led state efforts at three other contaminated sites in Visalia. Agricultural chemicals were detected on the 20-acre former site of Green Acres Airport on West Goshen Avenue. Site remediation involving soil excavation and removal and extensive water sampling was certified complete in 2009. Future residential use, day care centers, hospitals, schools, agriculture, or any soil excavation are not permitted without agency approval.

At the So. Cal. Gas/Visalia MGP site on North Tipton Street, site investigations in 1988 found petroleum-based soil contamination and groundwater contamination with heavy metals and Volatile Organic Compounds (VOCs). The site was remediated and capped with asphalt, and was certified in 1998. A deed restriction requires that the present commercial/industrial use designation remain.

Wastes containing VOCs were found to be contaminating groundwater from two adjacent parcels at Goshen Avenue and Shirk Road where various industrial activities had taken place. Remedial investigations began in 1991, and are still underway.

Objectives

S-O-3 Protect soils, surface water, and groundwater from contamination from hazardous materials.

Policies

S-P-15 Require remediation and cleanup of sites contaminated with hazardous substances.

The level of remediation and cleanup will be determined based on the intended use and health risk to the public. At the minimum, remediation will be in compliance with federal and State standards. Clean up shall be required in conjunction with new development, reconstruction, property transfer of ownership, and/or continued operation after the discovery of contamination.

S-P-16 Promote the reduction, recycling, and safe disposal of household hazardous wastes

through public education and awareness. Collection programs should be reviewed annually and expanded where appropriate. The City will also coordinate with hazardous waste recyclers to increase the frequency of hazardous waste collection events under this program.

S-P-17 Ensure that all specified hazardous facilities conform to the Tulare County Hazardous Materials Business Plan.

S-P-18 Coordinate enforcement of the Hazardous Material Disclosure Law and the implementation of the Hazardous Material Emergency Response Plan with the Tulare County Health and Human Service Agency.

State and federal legislation requires every business that handles hazardous materials report their inventories to the local fire department. The program's primary function is to identify, monitor, and assist businesses using or storing hazardous materials and allow the City to handle emergency incidents more effectively. The City will maintain and share this information with police, fire, and emergency services.

S-P-19 Coordinate with the Tulare County Environmental Health Division and other appropriate regulatory agencies during the review process of all proposals for the use of hazardous materials or those involving properties that may have toxic contamination, such as petroleum hydrocarbons, CAM 17 metals, asbestos, and lead.

S-P-20 Require applicants of projects in areas of known or suspected hazardous materials occurrences such as petroleum hydrocarbon contamination, CAM 17 metals, USTs, location of asbestos rocks and other such contamination to perform comprehensive soil and groundwater contamination assessments in accordance with regulatory agency testing standards, and if contamination exceeds regulatory action levels, require the project applicant to undertake remediation procedures prior to grading and development under the supervision of appropriate agencies, such as Tulare County Department of Environmental Heath, Department of Toxic Substances Control, or Regional Water Quality Control Board.

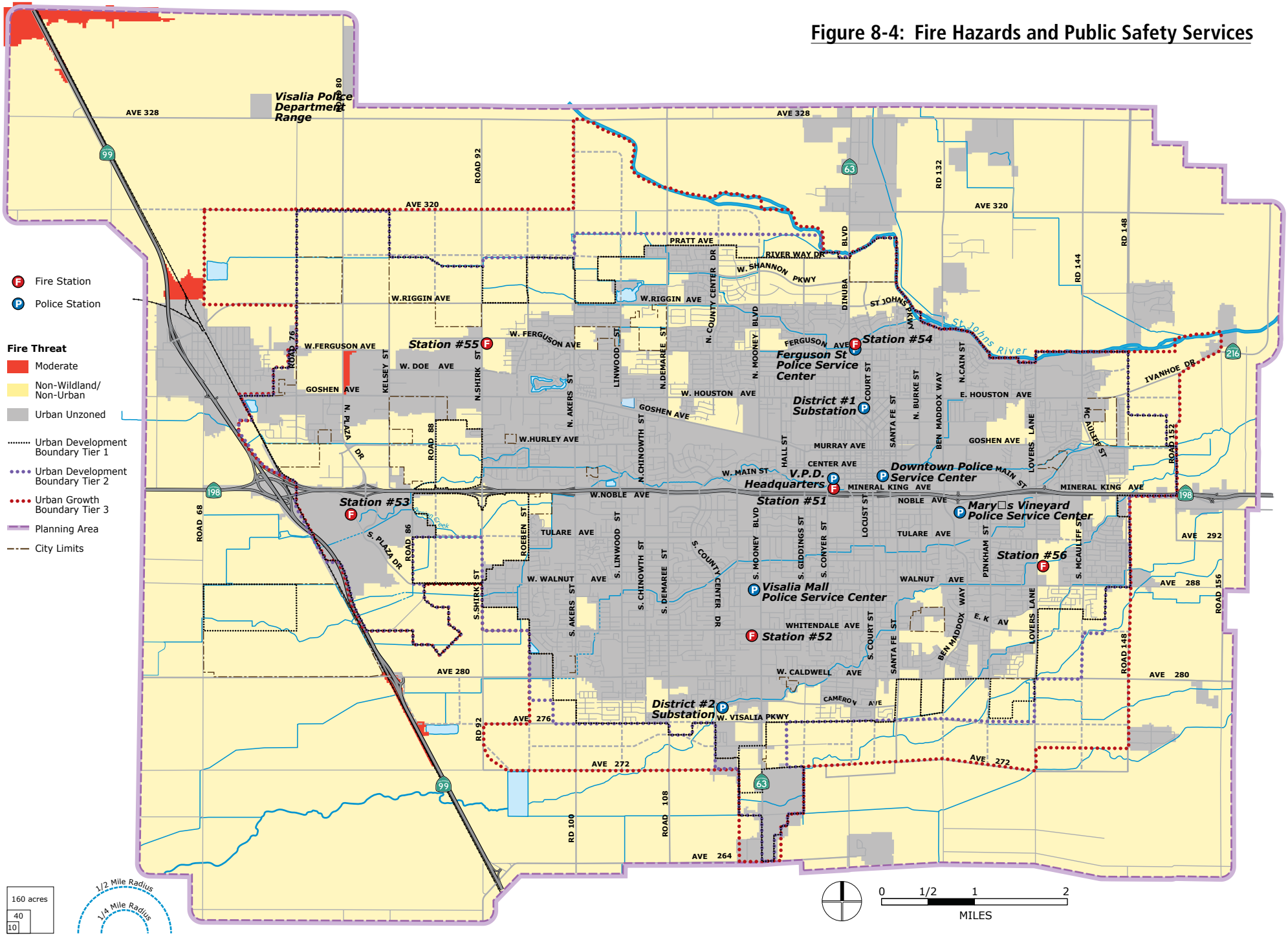
8.4 FIRE HAZARDS

Wildland Fires

Fire hazard potential is largely dependent on the extent and type of vegetation, known as surface fuels, that exists within a region. Fire hazards are typically highest in heavily wooded, undeveloped areas as trees are a greater source of fuel than low-lying brush or grassland. Suburban, urban areas or rocky barren areas have minimal surface fuels and therefore typically have the lowest fire hazard.

The California Department of Forestry and Fire Protection (CDF) maps areas of significant fire hazards in the state. These areas are identified based on weather, terrain, fuels (e.g. type of ground vegetation), and other factors. As **Figure 8-4** illustrates, very small portions of the Planning Area are classified by CDF as having moderate fire hazards. In general, the threat

Figure 8-4: Fire Hazards and Public Safety Services



of wildland fires in Visalia is very small because of the area's flat topography and relative absence of grassland, forest, and brush. The Planning Area is classified as a Local Responsibility Area (LRA), meaning that the City and County are responsible for incorporated and unincorporated areas, respectively.

Urban Fires

Even though Visalia is not considered to be a fire-prone city, structural fires pose a greater risk to life and property than wildland fires. The City of Visalia requires all new development and subdivisions to meet or exceed Uniform Fire Code provisions, and reviews all development applications during the plan check process. Fire services are discussed further in the following section.

Objectives

S-O-4 Protect Visalia's residents and businesses from potential fire hazards.

Policies

S-P-21 Develop a community wildfire mitigation plan that identifies and prioritizes areas for hazard fuel reduction treatments, and recommend the types of methods of treatments.

S-P-22 Manage vegetation in areas within and adjacent to public rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.

S-P-23 Continue to offer a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk to falling on nearby structures.

S-P-24 Continue to bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.

S-P-25 Implement a fuel reduction program, such as the collection and disposal of dead fuel, within publicly-owned open spaces and around critical facilities located within a high and very high wildfire zones.

S-P-26 Implement a program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.

S-P-27 Implement a fuel modification program, which also includes residential maintenance requirements and enforcement, plan submittal and approval process, guidelines for planting, and a listing of undesirable plant species. Require builders and developers to submit their plans, complete with proposed fuel modification zones, to the Fire Department for review and approval prior to beginning construction.

S-P-28 Assist in solving the incendiary problem by improving law enforcement and investigation equipment, adapting equipment available in other fields; and purchasing new equipment where needed. Implement "no-burn" programs, particularly in areas outside of immediate response zones of fire stations.

S-P-29 Ensure availability of adequate water supplies to meet public health and safety needs, and for resource protection, by maintaining the following order of priority for water use:

- Potable water supply, fire protection, and domestic use
- Resource protection and preservation
- Industrial, irrigation and commercial uses
- Water-oriented or water-enhanced recreation
- Air conditioning.

8.5 SAFETY SERVICES AND EMERGENCY RESPONSE

Police Services

Law enforcement services in Visalia are provided by the Visalia Police Department (VPD). The Department currently has 143 sworn officers, as well as seven reserve sworn officers, 64 civilian officers, and 65 volunteers. Operations personnel are supported by dispatch, records, crime analysis, and other essential law enforcement units. Police headquarters is at 303 South Johnson Street in downtown Visalia. In 2007, the Department opened substations on the City's north and south sides and shifted to district-based operations. These facilities are intended to facilitate contact with the community and support robust incident response, and are shown on **Figure 8-4**.

VPD does not adhere to service standards in terms of officers per thousand residents or incident response time. The Department's response times were under 15 minutes for 85 percent of all calls in 2008, and the average response time for Priority 1 calls was 4.2 minutes.[5] Response times and the ability of the Police Department to provide acceptable levels of service are contingent on growing staffing levels, sworn and civilian, consistent with resident population and the population of visitors, merchants, schools, and shoppers in the service area. The Police Department has identified a new headquarters as a critical need, and this is anticipated to be part of the Civic Center Master Plan. Growth will impact service delivery over time, and there may be the need for additional substations within the 20-year planning period, located to serve growth areas.

The Police Department collaborates with other law enforcement agencies and the District Attorney's office on crime prevention. VPD works with City and County agencies and education and social service providers on a variety of outreach and youth programs. The Department is engaged in gang prevention efforts ranging from school presentations to intensive management of high-risk probation cases to injunctions against two gangs and the establishment of a "safe zone" in north Visalia.

5 Visalia Police Department, General Plan Update Service Provider Response Form, 2010.

Police Department substations on the City's north and south sides are intended to facilitate contact with the community and support robust incident response. (Top)

The ability of the Police Department to provide acceptable levels of service are contingent on growing staffing levels consistent with population growth. (Bottom)

VFD follows the National Fire Protection Association (NFPA) response time standard, aiming to respond to 95 percent of calls within 5 minutes. (Top)

VFD staffs five paramedic engine companies, one truck company and a Battalion Chief daily, from five fire station locations. Additional stations are likely to be required to serve the growing city. (Bottom)

The Tulare County Sheriff's Department provides police protection services and investigates crimes in unincorporated areas of the County, including rural and semi-rural areas within the Planning Area. The Department is headquartered on the County administrative campus in Visalia. As Visalia grows, the Police Department will need to work closely with the Sheriff's Office.

Fire Services

Visalia Fire Department

The Visalia Fire Department (VFD) provides fire and life safety services for residents located within the city limits while the Tulare County Fire Department provides additional services for unincorporated areas within the Planning Area. VFD staffs five paramedic engine companies, one truck company and a Battalion Chief daily, from five fire station locations. The engines and truck are staffed with three personnel, giving the VFD a daily minimum staffing of 19. All apparatus are staffed with a paramedic at all times. The locations of fire stations are illustrated in **Figure 8-4**, along with 1.5 mile radii from fire stations demonstrating fire coverage for Visalia residents.

FIRE RESPONSE STANDARD AND ISO RATING

The Insurance Service Office (ISO)—a private organization that surveys fire departments in cities and towns across the United States—awarded the Visalia Fire Department a Class 4 rating (1 being highest and 10 being lowest). This rating considers a community's fire defense capacity versus fire potential, and then uses the score to set property insurance premiums for homeowners and commercial property owners.

VFD follows the National Fire Protection Association (NFPA) response time standard, aiming to respond to 95 percent of calls within 5 minutes, including one minute of "turnout" and four minutes of driving. Currently, the Department has an average response time of 5 minutes 37 seconds. Areas of southwest Visalia and smaller areas in the northwest and northeast cannot reasonably be served within the Department's target response time. These needs would become more acute if growth were to occur in the northwest, northeast, and southwest. The Department notes that increasing population has historically been accompanied by an increasing number of service calls, and there will be a need to increase staffing. The Department currently has 0.48 responders per 1,000 residents, compared to the NFPA standard of 1 per 1,000.

FIRE PREVENTION

Fire prevention is an important part of the Fire Department's work. The Department conducts weed abatement, does public education programs in schools and other venues, and checks all development plans during the review process. The Fire Department's focus is on making sure that proposed projects will be adequately served by water, and accessible to emergency vehicles.

The Department enforces the City's Hydrant Ordinance, which determines minimum spacing for fire hydrants. Street dimensions are scrutinized to ensure that space will be preserved for ladder trucks to be stabilized, and for emergency vehicles to turn around. Basic requirements in the City's subdivision ordinance include 52-foot minimum right-of-way widths and a 53-foot turning radius for cul-de-sacs.

EMERGENCY RESPONSE

In 2008, the Department responded to over 10,000 alarms and calls. The great majority of these calls (94 percent) were not fire-related, with two-thirds of calls being for emergency medical or rescue services. Hazardous conditions, such as gas or oil spills and downed power lines, were the next most frequent source of alarms, at 11 percent.

MUTUAL AND AUTOMATIC AID

The City of Visalia actively participates in the California Master Mutual Aid Plan. Formal mutual aid agreements have been written between the City and surrounding jurisdictions. A broad automatic aid agreement encompassing 59 square miles surrounding Visalia exists between Tulare County and the City.

Tulare County Fire Department

The Tulare County Fire Department (TCFD) provides fire and emergency medical services in unincorporated areas. The Department's Emergency Fire Communications Center, or Fire Com, provides dispatch services for the County Fire Department along with seven other rural fire districts, handling an average of 14,000 incidents annually.[6] The County Fire Department is also engaged in fire prevention work. This includes inspecting buildings and enforcing fire safety codes, conducting plan review for new buildings and fire protection systems, and interpreting fire safety codes during the design phase of new buildings. It also includes ongoing public education programs. TCFD has six battalion chiefs, 72 fire captains and lieutenants, and 400 reserve fire fighters. The Department operates 28 fire stations including one in the Planning Area (Fire Station 1) on South Lovers Lane.

Emergency Planning

The California Emergency Services Act (Government Code Section 8550-8668) provides a framework for local jurisdictions to prepare and maintain an Emergency Plan for natural, manmade, or war-caused emergencies that result in conditions of disaster or in extreme peril to life. The Tulare County Emergency Operations Plan (EOP) includes planning and response scenarios for seismic hazards, extreme weather conditions, landslides, dam failure and other flooding, wildland fires, hazardous materials incidents, transportation emergencies, civil disturbance, and terrorist attacks. It is meant to work in conjunction with the State Emergency Plan.

The Fire Department is represented on the County's Emergency Council, which meets for regional coordination pruposes at least four times per year. The Fire Department also houses the City's Emergency Operations Center and lead emergency preparedness and planning for the City. In addition, the City Fire Department has specific procedures for hazardous materials emergency response.

Evacuation Routes and Potential Shelter Sites

Tulare County's Evacuation Plan, updated and adopted in 2011 and incorporated in the EOP, establishes responsibilities, threat levels and triggers for evacuation, evacuation areas, and evacuation routes to be used in case of catastrophic emergencies. The extent and the severity of a disaster will determine which routes and which direction people must take

Visalia will continue to upgrade preparedness strategies and techniques in all departments so as to be prepared when disaster, either natural or man-made, occurs.

6 Tulare County Fire Department, accessed at http://www.co.tulare.ca.us/government/fire/default.asp, 2010.

in order to escape or avoid the afflicted areas. The Evacuation Plan places Visalia in Zone 5, and identifies SR 198, SR 99, and SR 63 as evacuation routes. The Agriculture Center in Tulare is identified as a County shelter.

Visalia and other cities within the County are responsible for preparedness activities including identifying equipment, vehicles, and critical supplies; identifying locations outside of potential impact areas to move resources, and to keep contact information updated for the County and State database.

In the event of a natural or man-made disaster, the City will coordinate with the Red Cross, Salvation Army, and state and federal agencies responsible for providing emergency shelter for displaced residents. The sites most commonly used are schools, senior centers, community centers, public buildings, and churches. Kaweah Delta Health Care District provides emergency health care services.

Objectives

S-O-5 Provide a comprehensive program of safety services including police, fire and medical response in all parts of the Visalia Planning Area.

S-O-6 Provide comprehensive emergency response and evacuation routes for Visalia area residents.

Policies

S-P-30 Integrate the Tulare County Hazard Mitigation Plan, in particular the hazard analysis and mitigation strategy sections, into the development review process, the emergency operations plan, and capital improvement program, as appropriate.

S-P-31 Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas.

Maps from the General Plan Update and the County's Hazard Mitigation Plan can be integrated into the City's GIS system.

S-P-32 Continue to make available fire alarm systems, as referred to in this Element, to be tied directly and automatically to the Visalia City Fire Chief's alarm-receiving center.

This policy would apply to private companies that wish to have better protection, as well as public buildings and other structures where the Fire Chief and/or the building inspector deem it necessary to have such protection.

S-P-33 Continue a program designed to eliminate unfit, unhealthy, dangerous, structurally unsafe, and fire hazardous housing units by rehabilitation or removal.

S-P-34 Continue the use of an "inspection team" to inspect all deteriorated and dilapidated housing units in the City.

This team carries out appropriate action such as giving instructions, red tagging, posting and removal of housing units when necessary. The team approach incorporates staff from departments having expertise in the area of inspection for safety, sanitation, and structural adequacy.

S-P-35 Continue to give those families that must remove or leave dilapidated units consideration in the allocation of housing units that are produced by publically-assisted housing programs.

S-P-36 Locate critical facilities, such as nursing homes, housing for the elderly, and other housing for the mentally and physically infirm, within a reasonable distance (3 miles or 3 minutes) from fire stations.

S-P-37 Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog conditions.

S-P-38 Continue to rely on the Tulare County Office of Emergency Services to maintain inventories of available resources to be used during disasters.

S-P-39 Continue to upgrade preparedness strategies and techniques in all departments so as to be prepared when disaster, either natural or man-made, occurs.

S-P-40 Continue to coordinate a public education program in order to foster public awareness of fire hazards with the intention of reducing injury and loss of life, damage to property, and degradation of the natural environment, particularly in conjunction with the public school system and "critical facility."

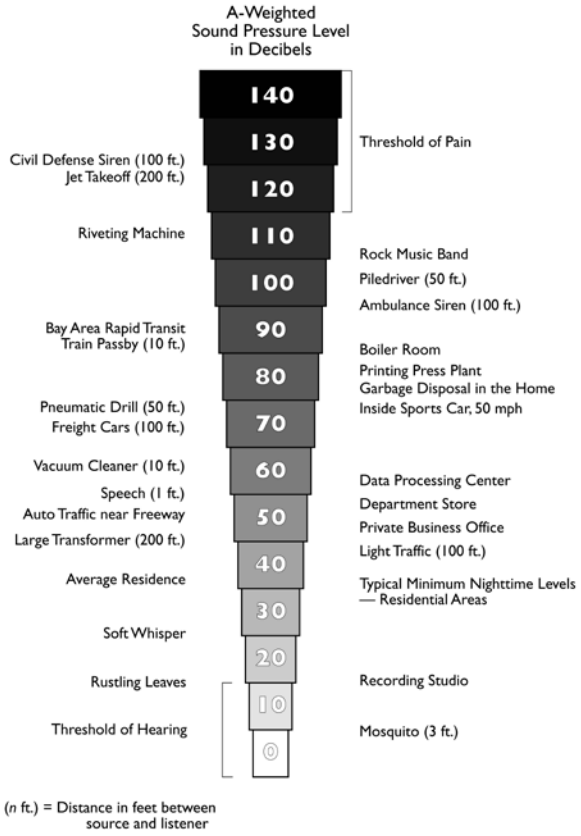
Education programs can be carried out through public and private schools, the libraries, police and fire department, the news media, civic organizations and on the City website. Programs should seek to reach all age groups, socio-economic classes, and both urban and rural residents. Education programs should be offered in both Spanish and English, as appropriate.

S-P-41 Periodically conduct joint training exercises with the County, State and federal agencies and others with the goal of developing the best possible coordinated action in fire suppression and crowd control.

S-P-42 Continue to keep geographically-indexed fire data in a GIS form that includes:

- Number of fires by activity and area
- Number of users in the activity
- Number of fires by ignition index in State responsibility areas
- Any other methods determined by the Safety Committee as necessary.

Figure 8-5: Typical Sound Levels



8.6 NOISE

The purpose of the Noise section is to identify the noise sources in the City, and to establish policies and programs to mitigate their potential impacts through both preventative and responsive measures. The regulation of noise sources such as traffic, railroad operations and aircraft operations is overseen by state and federal agencies; therefore, this element has a direct correlation with the land use, circulation, and housing elements. It guides the location of industrial land uses and transportation facilities, since they are common sources of excessive noise levels. This element also guides the location of particularly noise–sensitive uses, such as residences, schools, churches, and hospitals, so that they may be less affected by noise.

Noise Characteristics and Measurement

Noise is commonly defined as undesirable or unwanted sound. Noises vary widely in their scope, source, and volume, ranging from individual occurrences such as leaf blowers, to the intermittent disturbances of overhead aircraft, to the fairly constant noise generated by traffic on freeways.

Three aspects of community noise are used in assessing the noise environment:

- *Level* (e.g., magnitude or loudness). Sound levels are measured and expressed in decibels (dB) with 10 dB roughly equal to the threshold of hearing. **Figure 8-5** shows the decibel levels associated with different common sounds. Transient noise events may be described by their maximum A weighted noise level (dBA).
- *Frequency* composition or spectrum. Frequency is a measure of the pressure fluctuations per second, measured in units of hertz (Hz). The characterization of sound level magnitude with respect to frequency is the sound spectrum, often described in octave bands, which divide the audible human frequency range (e.g., from 20 to 20,000 Hz) into 10 segments.
- *Variation* in sound level with time, measured as noise exposure. Most community noise is produced by many distant noise sources that change gradually throughout the day and produce a relatively steady background noise having no identifiable source. Identifiable events of brief duration, such as aircraft flyovers, cause the community noise level to vary from instant to instant. A single number called the equivalent sound level or Leq describes the average noise exposure level over a period of time. Hourly L_{eq} values are called Hourly Noise Levels.

Reporting Noise Levels

Measuring and reporting noise levels involves accounting for variations in sensitivity to noise during the daytime versus nighttime hours. Noise descriptors used for analysis need to factor in human sensitivity to nighttime noise when background noise levels are generally lower than in the daytime and outside noise intrusions are more noticeable. Common descriptors include the Community Noise Equivalent Level (CNEL) and the Day-Night Average Level (DNL). Both reflect noise exposure over an average day with weighting to reflect the increased sensitivity to noise during the evening and night. The two descriptors are roughly equivalent. The CNEL descriptor is used in relation to major continuous noise sources, such

as aircraft or traffic, and is the reference level for the Noise Element under State planning law.

Knowledge of the following relationships is helpful in understanding how changes in noise and noise exposure are perceived:

- Except under special conditions, a change in sound level of 1 dB cannot be perceived;
- A 3 dB change is considered a just noticeable difference;
- A 5 dB change is required before any noticeable change in community response would be expected. A 5 dB increase is often considered a significant impact; and
- A 10 dB increase is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response.

According to common practice, maximum noise levels of 60 dB are considered "normally acceptable" for unshielded residential development. Noise levels from 60 dB to 70 dB fall within the "conditionally unacceptable" range, and those in the 70 to 75 dB range are considered "normally unacceptable."

Noise Generation in Visalia

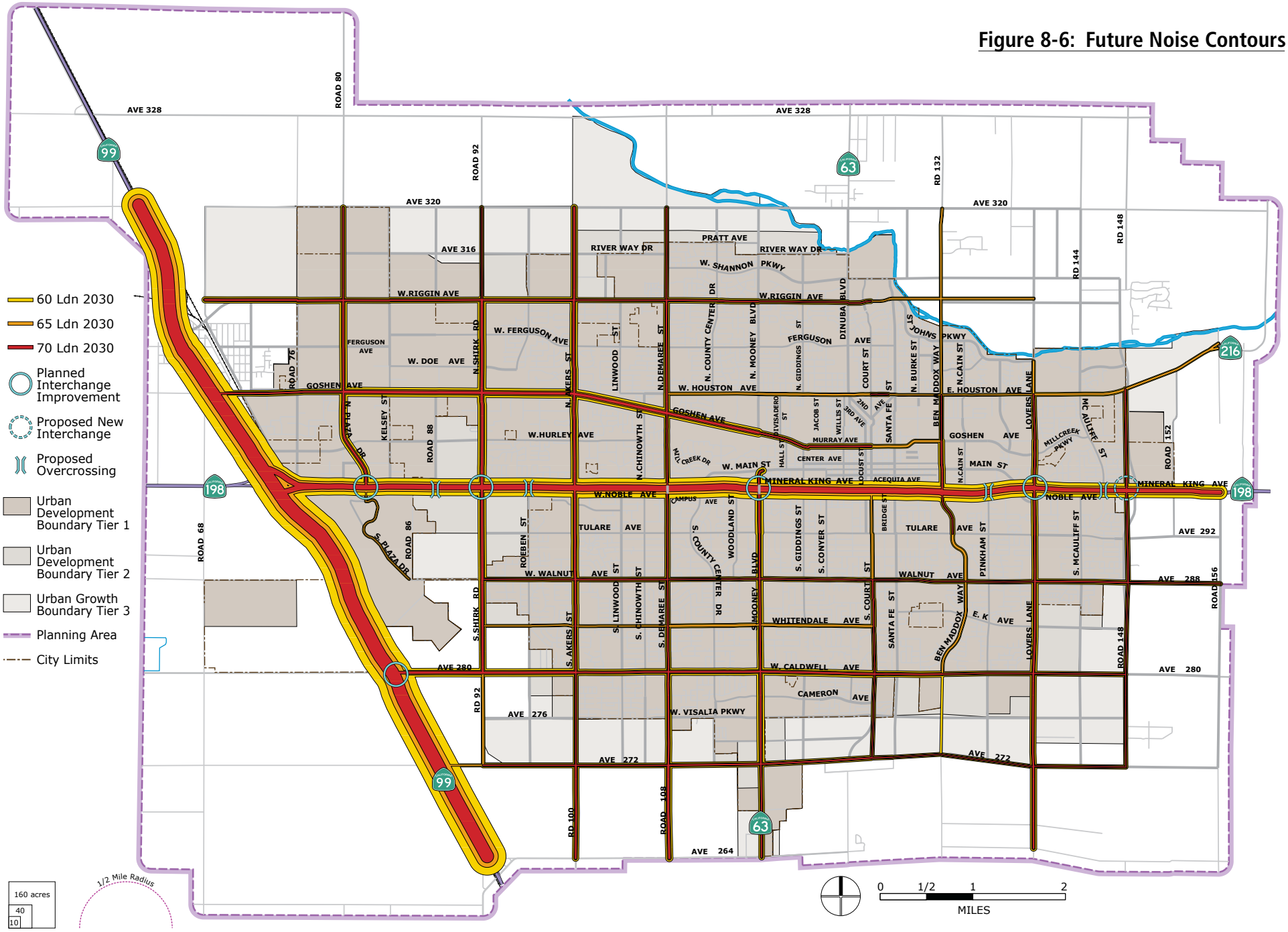
A community noise survey was conducted to document noise exposure in the city containing noise sensitive land uses and for major roadways. Noise monitoring sites were selected to be representative of typical residential, commercial, or recreational areas within the city. Short-term noise monitoring was conducted at eight sites on April 15 and 16, 2010. Community noise monitoring systems were calibrated with acoustical calibrators in the field prior to use. The systems comply with all pertinent requirements of the American National Standards Institute (ANSI)

Table 8-2: Short-Term Noise Measurements (2010)

				Measured Sound Level, dB		
Site	*Location*	*Date*	*Time*	L_{eq}	L_{min}	L_{max}
1	Community Campus, 220 NW 3rd Ave	4/15/10	15 minutes	53.5	45.1	65.1
2	Golden West High School 1717 N. McAuliff	4/15/10	15 minutes	49.8	42.2	62.1
3	Rec Park/Rawhide Stadium	4/15/10	15 minutes	50.7	45.2	60.8
4	College of the sequoias, 915 S. Mooney at Mineral King	4/15/10	15 minutes	50.3	47.1	58.9
5	Jefferson Park, Myrtle and S Watson	4/15/10	15 minutes	53.8	47.8	66.6
6	Willow Glen School, 310 N Akers	4/15/10	15 minutes	55.1	47.1	65.1
7	Crestwood School, 3001 W Whitendale Ave	4/15/10	15 minutes	54.9	46.3	70.2
8	Highway 198 and Lovers Lane	4/15/10	15 minutes	67.0	57.6	82.6

Source: ICF, 2010.

Figure 8-6: Future Noise Contours



for Type I sound level meters. Three continuous long-term 24-hour noise monitoring sites were also established in the city to record day-night statistical noise level trends and to develop CNEL values. The data collected included the hourly average (L_{eq}) the maximum level (L_{max}), and the minimum level (L_{min}) during the measurement period. Noise monitoring sites and the measured noise levels at each short-term site are summarized in **Table 8-2**.

The major noise sources in Visalia are related to roadways and vehicle traffic. Other noise sources include aircraft and rail transportation. Noise produced by industry has a negligible effect on the City's residential noise environment.

Traffic Noise

The level of highway traffic noise depends on three factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Vehicle noise is a combination of the noises produced by the engine, exhaust, tires, and wind generated by taller vehicles. Other factors that affect the perception of traffic noise include: distance from the highway, terrain, vegetation, and natural and structural obstacles. While tire noise from autos is generally located at ground level, truck noise sources can be located as high as ten to fifteen feet above the roadbed due to tall exhaust stacks and higher engines.

Noise exposure contours for Visalia's major roadways were modeled by applying the Federal Highway Administration's noise modeling procedure. Traffic data representing annual average traffic volumes and truck mix, for existing conditions, were obtained from the project traffic engineers (Omni Means, 2010) and Caltrans. Using these data and the FHWA methodology, traffic noise levels were calculated for existing traffic volumes. These noise contours are conservative, meaning that the contours are modeled with minimal noise attenuation by natural barriers, buildings, etc. Existing traffic noise contours are provided in Table B-1, in Appendix B.

Future development within the Planning Area will result in increased traffic volumes, thus increasing noise levels somewhat in some areas. Future noise contours are illustrated in **Figure 8-6**. In 2035, approximately 2,190 acres (about 3 percent of the Study Area) will be in areas with noises levels greater than 65 dBA. Approximately 3 percent of the Very Low and Low Density Residential acreage, 4 percent of Medium Density Residential acreage, and 7.5 percent of High Density Residential acreage will be within the 65 dBA contours. Increases in traffic levels can be counteracted by the implementation of alternate forms of transportation and land use design that factor in noise concerns. Locating noise-sensitive uses away from high-noise areas (e.g. major transportation routes) and buffering noise levels through design and landscaping features will help minimize future noise-related land use conflicts. Policies in this element establish review criteria for certain land uses to ensure that future noise levels will not exceed acceptable levels near noise-sensitive land uses.

Railroad Operations Noise

Railroad activity in the City occurs along two railroad lines: the Union Pacific Railroad and the Burlington Northern Santa Fe. Train movements occur on the Union Pacific Railroad approximately 5 times per week during daytime hours. Trains will usually have one engine and 20 cars. There are typically no train movements between the hours of 10:00 p.m. to

Vehicle noise is a combination of the noises produced by the engine, exhaust, tires, and wind generated by taller vehicles.

The Visalia Municipal Airport hosts an estimated 71 takeoffs and landings per day. The Tulare County Comprehensive Airport Land Use Plan (CALUP) aims to minimize the effects of aircraft noise on communities. (Top)

Other noise sources are associated with service commercial uses such as automotive repair facilities, wrecking yards, tire installation centers, car washes, and loading docks. (Bottom)

7:00 a.m., and train speeds are restricted to 10 mph. Train movements rarely occur on the Burlington Northern Santa Fe Railroad. To represent a worst-case scenario, the highest noise level measured for the 1991 General Plan was used to calculate rail noise along the Union Pacific line. Where grade crossings exist, and warning horns and crossing alarms are signaled, individual single event noise levels associated with a train generally will increase by approximately 10 dB. Warning horns generally are signaled within one-quarter mile of a grade crossing.

Visalia Municipal Airport Noise

The City recognizes the importance of Visalia Municipal Airport to the community and region. The Tulare County Airport Land Use Commission (ALUC), the agency that has jurisdictional authority over the airport, assesses adjacent land use. The Tulare County Comprehensive Airport Land Use Plan (CALUP) guides the ALUC in determining appropriate compatible land uses with detailed findings and policies. This includes minimizing the effects of aircraft noise on communities adjacent to airports. At the time of the Airport Master Plan (2004), the Visalia Municipal Airport hosted approximately 26,000 total aircraft operations (an estimated 71 takeoffs and landings per day).

Major Stationary Noise Sources

Noise can result from many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations set by the Occupational Safety and Health Administration [OSHA] and Cal-OSHA, but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise that affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components that may be annoying to individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

Land use uses that may typically produce noise include wood processing facilities, pump stations, industrial facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, special events such as concerts, and athletic fields. Notable operations in the Visalia Planning Area are summarized below.

Manufacturing and Food Processing Plants

WALNUT DRYERS/HULLERS

Three walnut processing facilities are in Visalia: The Phil Moodey walnut huller at Road 156 and Avenue 280, the Blain Farming nut shelling operation at 1240 E. Caldwell Avenue, and the Sequoia Walnut Growers Association Facility at Ben Maddox Road and Goshen Avenue.

The dominant noise source is at the Phil Moodey facility where the blower separates the nuts from other materials. This facility operates a few hours per day. Noise levels of 77-78 dBA were measured at 100 feet from the blower. The Moodey plant is surrounded by

agricultural uses. Roof mounted fans were the dominant noise source at the Blain Farming facility. All other noise producing equipment is enclosed within the building. Noise levels of 76-78 dBA were measured at 100 feet west of the plant. Agricultural uses surround the plant.

The dominant noise source at the Sequoia Walnut Growers Association plant is a rubber conveyor belt. Noise levels ranged from 68-69 dBA at a distance of 100 feet from the north side of the building. The plant operates from 8:00 a.m. to 5:00 p.m. for approximately six weeks per year. The plant is currently surrounded by other businesses, including a used car lot and a fast food restaurant.

Agricultural Operations

AERIAL APPLICATION AIRCRAFT (CROP DUSTERS) AND OTHER FARMING OPERATIONS

Aerial application aircraft are frequently used to spray crops or to spread seed or fertilizers. The horsepower ratings of various aircraft used for aerial application generally ranges from 300 to 1200. Measurements conducted with a Piper Brave (300 hp/3-bladed propeller) show noise ranged from 85-88 dBA at about 600 feet, and 97-100 dBA at fifty feet. By contrast, measurements conducted with a Grumman Ag Cat (600 hp/2-bladed propeller indicated a maximum noise level of 103 dBA at 100 to 150 feet overhead. Finally, measurements taken at the Tulare Municipal Airport in 1998 showed noise from in the 90-95 dBA range at approximately 100 feet overhead.

Other Noise Sources

TULARE COUNTY LANDFILL, ROAD 80

Operations at the Tulare County Landfill have not changed since the 1995 General Plan. Noise monitoring for this solid waste landfill documented noise from refuse trucks and automobiles entering and leaving the landfill, and the heavy equipment use to manage and cover the refuse. Noise levels ranged from 63-68 dBA at a distance of 300 feet. The posted operating hours of the landfill are 8:00 a.m. to 4:00 p.m., seven days a week.

GENERAL SERVICE COMMERCIAL AND LIGHT INDUSTRIAL USES

Noise sources associated with service commercial uses such as automotive repair facilities, wrecking yards, tire installation centers, car washes, loading docks, etc., are found at various locations within the city. The noise emissions of these types of uses are dependent on many factors and are therefore difficult to quantify precisely. Nonetheless, noise generated by the these uses contributes to the ambient noise environment in the immediate vicinity of these uses and should be considered where either new noise-sensitive uses are proposed nearby or where similar uses are proposed in existing residential areas.

PARKS AND SCHOOL PLAYING FIELDS

There are numerous park and school uses within the city. Noise generated by these uses depends on the age and number of people utilizing the respective facility at a given time and the types of activities they are engaged in. School playing field activities tend to generate more noise than those of neighborhood parks, as the intensity of school playground usage tends to be higher. At a distance of 100 feet from an

Table 8-3: Transportation Noise Sources

Noise-Sensitive Land Use	*Outdoor Activity Areas*[1]		*Interior Spaces*
	DNL/CNEL[2]*, dB*	*DNL/CNEL*[2]*, dB*	*L_{eq} dB*[3]
Residential	65	45	–-
Transient Lodging	65	45	–-
Hospitals, Nursing Homes	65	45	–-
Theaters, Auditoriums, Music Halls	–-	–-	35
Churches, Meeting Halls	65	–-	45
Office Buildings	–-	–-	45
Schools, Libraries, Museums	–-	–-	45

Notes:

(1) Outdoor activity areas generally include backyards of single-family residences and outdoor patios, decks or common recreation areas of multi-family developments.

(2) The CNEL is used for quantification of aircraft noise exposure as required by CAC Title 21.

(3) As determined for a typical worst-case hour during periods of use.

Table 8-4: Stationary Noise Sources[1]

	Daytime (7:00 a.m. – 10:00 p.m.)	*Nighttime (10:00 p.m. – 7:00 a.m.)*
Hourly Equivalent Sound Level (L_{eq}), dBA	50	45
Maximum Sound Level (L_{max}), dBA	70	65

(1) As determined at the property line of the receiving noise-sensitive use.

elementary school playground being used by 100 students, average and maximum noise levels of 60 and 75 dB, respectively, can be expected. At organized events such as high-school football games with large crowds and public address systems, the noise generation is often significantly higher. As with service commercial uses, the noise generation of parks and school playing fields is variable.

Noise Sensitive Land Uses

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Places where people live, sleep, recreate, worship and study generally are considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

City of Visalia Noise Ordinance

Section 8.36 of the City's Municipal Code contains the City's noise ordinance, which establishes exterior and interior noise level standards. Standards are measured in terms of the cumulative number of minutes in any one-hour time period during which a noise level may be exceeded. Lower noise levels (measured in dBA) may be exceeded for longer periods. Separate thresholds are established for daytime (6 a.m. to 7 p.m.) and nighttime (7 p.m. to 6 a.m.) hours.

Under the current Ordinance, interior noise levels should not exceed 70 dBA during evening and daytime and 65 dBA during the nighttime, for any period of time. Exterior noise levels should not exceed 55 dBA and 45 dBA, respectively.

The Noise Ordinance should be updated to be consistent with the General Plan. It should include specific maximum hourly noise levels of outdoor activity areas and indoor spaces for specified land use types; measurement standards; required noise mitigation standards for new residential development in noise-impacted environments; uniform guidelines for acoustical studies based on current professional standards; and enforcement procedures.

The Noise Ordinance may remain primarily oriented to limiting the generation of noise emissions, but should also include provisions for mandatory mitigation actions based on target hourly noise levels established in the General Plan.

Finally, the Noise Ordinance should establish performance standards for noise reduction for new housing that may be exposed to community noise levels above 65 dB DNL/CNEL, as shown on the Noise Contour Map, based on the target acceptable noise levels for outdoor activity levels and interior spaces in **Tables 8-2** and **8-3**. Noise mitigation measures that may be proposed to acheive these noise level targets include but are not limited to the following:

- All façades constructed with substantial weight and insulation;
- Sound-rated windows with enhanced noise reduction for habitable rooms;
- Sound-rated doors with enhanced reduction for all exterior entries at habitable rooms;
- Minimum setbacks and exterior barriers;
- Acoustic baffling of vents for chimneys, attic and gable ends;
- Installation of a mechanical ventilation system affording comfort and fresh air under closed window conditions is required.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved, provided a qualified Acoustical Engineer Consultant submits information demonstrating that the specific targets for outdoor activity areas and interior spaces can be achieved and maintained.

Objectives

N-O-1 Strive to achieve an acceptable noise environment for present and future residents of Visalia.

N-O-2 Protect the City's economic base by preventing the encroachment of incompatible land uses near known noise producing industries, railroads, airports and other sources.

N-O-3 Protect noise sensitive land uses such as schools, hospitals, and senior care facilities from encroachment of and exposure to excessive levels of noise.

Policies

N-P-1 Update the City's Noise Ordinance as needed to be in conformance with the General Plan.

N-P-2 Promote the use of noise attenuation measures to improve the acoustic environment inside residences where existing single-family residential development is located in a noise-impacted environment such as along an arterial street or adjacent to a noise-producing use.

Locating noise-sensitive uses away from high-noise areas and buffering noise levels through design and landscaping features will help minimize future noise-related land use conflicts.

N-P-3 Establish performance standards for noise reduction for new housing that may be exposed to community noise levels above 65 dB DNL/CNEL, as shown on the Noise Contour Maps, based on the target acceptable noise levels for outdoor activity levels and interior spaces in **Tables 8-2** and **8-3.** Noise mitigation measures that may be considered to achieve these noise level targets include but are not limited to the following:

- Construct façades with substantial weight and insulation;
- Use sound-rated windows with enhanced noise reduction for primary sleeping and activity areas;
- Use sound-rated doors for all exterior entries at primary sleeping and activity areas;
- Use minimum setbacks and exterior barriers;
- Use acoustic baffling of vents for chimneys, attic and gable ends;
- Install a mechanical ventilation system that provides fresh air under closed window conditions.

Alternative acoustical designs that achieve the prescribed noise level standards may be approved, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

N-P-4 Where new development of industrial, commercial or other noise generating land uses (including roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by **Tables 8-2** and **8-3**, require a noise study to determine impacts, and require developers to mitigate these impacts in conformance with **Tables 8-2** and **8-3** as a condition of permit approval through appropriate means.

Noise mitigation measures may include but are not limited to:

- *Screen and control noise sources, such as parking and loading facilities, outdoor activities, and mechanical equipment;*
- *Increase setbacks for noise sources from adjacent dwellings;*
- *Retain fences, walls, and landscaping that serve as noise buffers;*
- *Use soundproofing materials and double-glazed windows;*
- *Use open space, building orientation and design, landscaping and running water to mask sounds; and*
- *Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.*

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved, provided a qualified Acoustical Consultant submits information demonstrating

that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along state highways and arterials when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.

N-P-5 Continue to enforce applicable State Noise Insulation Standards (California Administrative Code, Title 24) and Uniform Building Code (UBC) noise requirements.

N-P-6 Establish noise level performance standards for new equipment and vehicles purchased by the City consistent with the best available control technology (BACT) to minimize noise and vibration.

N-P-7 Use the land use compatibility zone guidelines contained in the Airport Master Plan or more current information on airport noise to assess noise compatibility of airport operation with proposed land uses.

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