

6

RESOURCES AND HAZARDS



NATURAL RESOURCES
HAZARDS
SUSTAINABILITY
IMPLEMENTATION

INTRODUCTION

This Chapter is divided into four parts.

The first part, **Natural Resources**, addresses the subjects typically included in a general plan conservation element.

The second part, **Hazards**, addresses the subjects typically included in general plan safety and noise elements.

The third part, **Sustainability and Greenhouse Gas Reduction**, is a new section of the Plan that addresses greenhouse gas reduction strategies, energy conservation, low impact development, and other strategies to reduce the consumption of non-renewable resources and preserve environmental quality. The greenhouse gas reduction strategies are supplemented by the Danville Sustainability Action Plan, a separate document which provides more detailed and quantifiable steps to address local sustainability measures.

The fourth part of this Chapter lists **Implementation** measures for each of the three major topic areas.

NATURAL RESOURCES

A. SETTING

Natural resources refer to the broad range of naturally occurring features in an area, such as minerals, timber, soils, vegetation, and water. Natural resources also include features that are not directly consumable, but serve other human needs, such as open space. Natural resources may also include features useful to other species, such as riparian habitats which provide food and cover for birds and other animals. Key natural resources in Danville include plant communities, wildlife, and agricultural land.

PLANT COMMUNITIES

The following paragraphs describe each of the major plant communities in Danville.

Urban/Cultivated

The principal residential areas of Danville were once mostly grassland or open savanna. Over

the past 50 years, a large number of shade trees, shrubs, and gardens have been planted and many areas have been irrigated or are regularly watered. Although the urban landscape is not a natural habitat, it supports a diverse range of plant and animal life. Danville's wooded, landscaped setting has become an important component of the community's character.

Grasslands

Extensive grasslands are located in the Sycamore Valley area and surrounding hillsides. Flowering annual herbs abound in the grasslands, including the California poppy, lupine, and yarrow. The grasslands are green during the rainy season and spring but, with the advent of summer, dry into a golden mantle. The grasslands must be managed to prevent fire hazards and the intrusion of weed species, chaparral, and invasive plants such as star thistle. Grasslands provide forage for cattle and other grazing animals, and habitat for small reptiles, rodents, deer, coyote, songbirds, and birds of prey.

Chaparral

Chaparral is a plant community of small trees and shrubs well adapted to the dry, rocky slopes of the San Ramon Valley, including portions of Las Trampas Ridge in Danville. Plant species in the chaparral community include manzanita, chamise, ceanothus, toyon, scrub oak, and poison oak. The chaparral community is ecologically fitted to a cycle of fire destruction. Periodic small fires help preserve the mix of plant species and reduce the danger of more catastrophic fires. Chaparral provides food and cover for small reptiles, birds, rodents, deer, and coyote.

Savanna

Savanna is a plant community that includes grasslands punctuated by large native oak trees, either as individual trees or in small stands. Savanna was once a dominant plant community throughout California but has been greatly reduced by agriculture and urbanization. Plant species in the savanna community, in addition to the grasses, include valley oaks and coast live oaks.



Las Trampas Regional Wilderness with view of westside Danville. Photo courtesy of Karl Nielson.

Large valley oaks (*Quercus lobata*) remain in the urbanized and rural portions of Danville, and are very important to the community's visual character. Protecting these large oak trees is a major concern, since grading, paving, and excessive irrigation damages the roots of the trees, leading to disease and/or untimely death.

Woodland

Woodland is a plant community with a diverse mix of tree species forming a dense overstory of vegetation. Woodlands in Danville are primarily located on the north and east facing slopes and canyons of Las Trampas Ridge. Common trees in the woodland community include coastal and interior live oaks, black oak, valley oak, California bay laurel, buckeye, and madrone.

Riparian

The Riparian community includes a combination of plant species that thrive along intermittent and perennial waterways. Creeks and streams and the associated riparian vegetation are important features in Danville, providing wildlife habitat, stormwater drainage, visual backdrops, and recreation corridors.

AGRICULTURE

Historically, a significant natural resource of the San Ramon Valley was its rich soil, valuable for its ability to produce food. Cultivation of crops, including fruit and nut orchards on the bottomlands and lower slopes and cattle grazing on the hillside areas, continued from the time of first settlement until the recent past. Urbanization over the past 50 years has displaced virtually all cultivated agriculture. Grazing operations and some dry farming continue in the Sycamore Valley area and surrounding hills, and further east in the Tassajara Valley. High land values and encroachment by urban uses threaten the long-term existence of cultivated agriculture on the entire San Ramon Valley floor.

CREEKS

Creeks are one of the defining elements of Danville's landscape and are an important aesthetic and ecological asset within the community. Major creeks include San Ramon Creek, Sycamore Creek, Green Valley Creek, and the East and West Branches of Alamo Creek. Physical conditions and ownership patterns along Danville's creeks vary. Some sections are natural in appearance and provide abundant habitat for plants and animals. Some sections have been channelized for flood control purposes, while other sections have been incorporated as recreational amenities or trail corridors within Town parks. Many sections are privately owned, traversing private backyards or agricultural land. The Contra Costa County Flood Control and Water Conservation District also owns many sections and has easements for flood plain management on some of the private sections. Flood control projects have changed the character of some of the creeks, particularly within developed areas.

WATER QUALITY AND STORMWATER CONTROL

Regional Considerations

The dominant water feature in the San Francisco Bay Area is the San Francisco Bay Estuary. The Estuary is a highly dynamic and complex ecosystem. It is extraordinarily diverse and productive. While the Sacramento and San Joaquin rivers contribute the vast majority of inflow into the Bay, many small rivers, creeks, and streams also convey fresh water to the Bay system. The rate and timing of these freshwater flows influence physical, chemical, and biological conditions in the Estuary.

Because of its unique characteristics, the Estuary system has warranted special protection, including: (a) provisions to address and mitigate the potential adverse effects of waste discharges and (b) provisions to control upstream water diversions. The California Legislature established the State Water Resources Control Board (State Water Board) and nine Regional Water Quality

Control Boards (RWQCBs) in 1949. The State Water Board administers water rights, water pollution control, and water quality functions for the State as part of the California Environmental Protection Agency (Cal/EPA). The San Francisco Bay RWQCB regulates surface water and groundwater quality in the region. A significant aspect of their mission centers around the adoption, monitoring, and enforcement of waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permits, and development of the San Francisco Bay Basin Plan. The Basin Plan is the master policy document that provides the legal, technical, and programmatic bases for water quality regulation in the region (see text box).

Countywide Activities

In 1993, the Town of Danville joined with other jurisdictions in Contra Costa County and the Contra Costa County Flood Control and Water Conservation District to develop, fund, and operate a countywide Contra Costa Clean Water Program (CCCWP). The program was necessary to comply with federal water quality requirements and was implemented on a countywide level to save on program costs.

In 1995, the RWQCB changed the way it managed pollution sources, expanding its primary focus from point sources of pollution (such as sewage treatment plants) to include more diffuse sources such as urban and agricultural runoff. The NPDES permit for the countywide program was reissued in 1999 and reflected this broadened scope of regulation. One aspect of the new permit is a greater emphasis on watershed management, including the creation of watershed action plans. These plans consider all of the factors that affect water quality, including grading, construction and development, agriculture, transportation, solid waste management, and household activities. Typical strategies include improving public education on water quality, coordinating the activities of different permitting agencies, and better enforcement of litter laws and dumping restrictions.

In 2009, as a result of this regionalized watershed management approach, the RWQCB combined all Bay Area NPDES permits into one regional permit called the Municipal Regional Permit (MRP). The consolidated permit was intended to reduce the administrative burden on local municipalities, establish a level playing field for all participants, and more clearly express program priorities. The MRP requires local governments to operate and annually report on programs targeted to the following categories:

- Municipal Operations
- New Development and Redevelopment
- Industrial and Commercial Site Control
- Illicit Discharge and Elimination
- Construction Site Controls
- Public Information and Outreach
- Water Quality Monitoring
- Pesticides Toxicity Controls
- Trash Reduction
- Controls on Mercury, PCBs, Copper, Polybrominated Diphenyl Ethers (PBDE), Legacy Pesticides, and Selenium
- Exempt and Conditionally Exempt Discharges

Town of Danville Water Quality Activities

The Town of Danville adopted a Stormwater Management and Discharge Control Ordinance in 1994 and subsequently replaced that ordinance with a new ordinance in January 2005. The updated ordinance is consistent with the regional permit and provides the regulatory framework needed to implement source control, site design, and treatment measures - collectively referred to as C.3 requirements.

The updated ordinance also strengthened the Town's ability to enforce water quality controls and regulations. In 2005 the Town concurrently adopted the most recent version of the CCCWP Stormwater C.3 Guidebook. The Guidebook provides design assistance for projects going through development review.



San Ramon Creek

PLANNING FOR BETTER WATER QUALITY IN SAN FRANCISCO BAY

The San Francisco Bay Regional Water Quality Control Board (RWQCB) first adopted a plan for waters inland from the Golden Gate in 1968. The first comprehensive Basin Plan for the Region was adopted in 1975. That plan is periodically updated in response to new state and federal laws, and changing conditions in the watershed. The basin planning process guides the RWQCB's efforts to manage water quality in the region. The Basin Plan provides a definitive program of actions designed to preserve and enhance water quality, with the overarching goal of providing positive and firm direction for future water quality control.

The Basin Plan fulfills the following needs:

- It provides the basis for determining priorities for the allocation of state and federal grants for construction and upgrading of wastewater treatment facilities.
- It fulfills the requirements of the Porter-Cologne Act that call for water quality control plans in California.
- It provides the basis to establish or revise waste discharge requirements and to establish or revise water rights permits.
- It establishes discharge conditions and prohibitions.
- It establishes or indicates the water quality standards required by the federal Clean Water Act.
- It establishes water quality attainment strategies required by the Clean Water Act for pollutants and water bodies where water quality standards are not currently met.

The Municipal Regional Permit (MRP) mandates that the amount of trash ending up in stormwater be reduced. The MRP requires a determination of baseline trash levels; the development of methodologies to measure and track trash reductions; and the preparation of short-term and long-term plans to eventually eliminate all trash from stormwater by 2022.

The MRP also lowers the size threshold of projects that will be subject to the program's Low Impact Development (LID) standards. These standards seek to reduce the amount of stormwater that runs off a site, while maximizing the amount of rainwater that can be absorbed on-site. The LID standards specify that qualifying projects must utilize some combination of stormwater infiltration, evapotranspiration, capture, use, or biotreatment. The program also requires hydro-modification plans and programs. Such plans are intended to monitor and regulate the amount of stormwater generated by new development and redevelopment.

OTHER NATURAL RESOURCES

There are no significant mineral deposits, fisheries, forests, rivers, harbors, or surface mining operations in Danville. The Town promotes protection of its soil resources by enforcing its Grading Ordinance, discouraging construction on steep slopes, and requiring erosion control measures during construction. As noted above, the Town promotes protection of its water resources by maintaining a stormwater pollution control program and requiring compliance with appropriate state and federal clean water laws.

B. FORECAST

Preservation of natural resources is a basic goal of the Danville General Plan. Current and planned

levels of development can be accommodated while preserving existing natural resources.

Land in agricultural production will be further reduced as development occurs. However, the planned unit development approach will continue to be strongly supported as a means to permanently preserve hillside grassland areas.

The Town will continue to promote the use of tax incentive programs (such as the Williamson Act) and other measures which help keep agriculture viable in the Tassajara Valley and nearby areas. The Town will also support continued dedication of open space within new development and acquisition of land by the East Bay Regional Park District. Although these lands will continue to be available for grazing purposes, they will be managed to reduce overgrazing and the related erosion problems that may follow.

Continued implementation of the Town's Hillside Development Guidelines and the Parks, Recreation, and Arts Strategic Plan will help preserve remaining natural habitat areas, including riparian communities. Specific programs are proposed to enhance conditions along Danville's creeks and ensure that they remain viable for wildlife and recreation, as well as stormwater management.

Detailed surveys will continue to be required on new development sites to confirm the presence or absence of sensitive resources, including the potential for occurrence of special-status species. Creek corridors, potential wetlands, and other habitat types on these sites may support such species. Habitat surveys are typically required as part of environmental review of proposed development applications. In addition, programs which increase public understanding of the need to protect and effectively manage sensitive biological and wetland resources will continue to be encouraged.

C. GOALS AND POLICIES

GOALS: ENVIRONMENTAL QUALITY

Goal 21: *Protect and enhance Danville’s natural features, including its hillsides, ridgelines, creeks, vegetation, and wildlife.*

Goal 22: *Improve water quality in Danville and the water bodies which receive runoff from Danville, including San Francisco Bay.*

Goal 23: *Promote intergovernmental coordination and cooperation to protect environmental quality.*

POLICIES: ENVIRONMENTAL QUALITY		IMPLEMENTATION MEASURES
21.01	Preserve and enhance natural habitat areas that support wildlife, including large continuous areas of open space and wetland and riparian habitat.	<ul style="list-style-type: none"> • CEQA • Zoning Ordinance • Park and Open Space Dedication / Acquisition • Hillside/Ridgeline Ordinance
21.02	Maintain open space in appropriate areas, including areas of scenic beauty, areas of economically viable agriculture, and areas where natural hazards such as flooding and land instability preclude safe development.	<ul style="list-style-type: none"> • Zoning Ordinance • Park and Open Space Dedication / Acquisition • Hillside/Ridgeline Ordinance • PUD Zoning
21.03	Utilize the development review process to preserve adequate open space for scenic, active, and passive purposes. Require private open space areas where appropriate.	<ul style="list-style-type: none"> • Development Review • Zoning Ordinance • Park and Open Space Dedication / Acquisition
21.04	<p>Require adequate buffering and effective fencing between agricultural and urban land uses.</p> <p>The urban land use should be responsible for the creation and maintenance of such buffers and the urban property owners should assume the responsibility for potential impacts upon adjacent uses. Where appropriate, disclosure notices should be used to advise homebuyers of nearby agricultural activities as a means of ensuring that such activities may continue when they are properly conducted.</p>	<ul style="list-style-type: none"> • Development Review

POLICIES: ENVIRONMENTAL QUALITY		IMPLEMENTATION MEASURES
21.05	Maintain development standards and regulations for hillside grading which protect public safety, discourage major changes to natural landforms, ensure that adverse visual and aesthetic impacts are minimized, and require that erosion, sedimentation, and other potentially harmful effects of grading are appropriately mitigated.	<ul style="list-style-type: none"> • Grading Ordinance • Public Works Standards
21.06	Discourage activities that would harm the health of existing trees. Prevent the unnecessary removal and alteration of such trees, including “protected” trees as defined by the Town’s Tree Preservation Ordinance and other trees that contribute to the scenic beauty of the town. Public and private improvements should be designed to minimize the removal of mature trees, regardless of species. If removal is necessary, trees should be replaced with an appropriate number and species.	<ul style="list-style-type: none"> • Tree Preservation Ordinance • CEQA
21.07	Ensure that local planning and development decisions do not damage the habitat of rare and endangered plant and animal species, consistent with state and federal law.	<ul style="list-style-type: none"> • CEQA • Development Review
21.08	Where appropriate, encourage the retention and re-establishment of native vegetation in private development and public facility projects.	<ul style="list-style-type: none"> • CEQA • Development Review
21.09	Require the planting and maintenance of trees along Danville streets. Species should be appropriate for their settings, given considerations such as maintenance and pruning requirements, water needs, potential for sidewalk damage, and view impacts.	<ul style="list-style-type: none"> • Development Review • Street Tree Planting Program
21.10	<p>Require a biological assessment for development proposed on sites that are determined to have the potential to contain special-status species, sensitive natural communities, or wetland resources.</p> <p><i>The assessment should be conducted by a qualified professional to determine the presence or absence of any sensitive resources which could be affected by proposed development, should provide an assessment of the potential impacts, and should define measures for protecting the resource and surrounding buffer habitat, in compliance with state and federal laws. Detailed surveys are not necessary in locations where past and existing development have eliminated natural habitat and the potential for presence of sensitive biological resources.</i></p>	<ul style="list-style-type: none"> • Development Review • CEQA

POLICIES: ENVIRONMENTAL QUALITY		IMPLEMENTATION MEASURES
21.11	Protect the nests of raptors and other birds when in active use, as required by state Fish and Game Code and the federal Migratory Bird Treaty Act.	<ul style="list-style-type: none"> • Development Review • CEQA
22.01	Maintain and enhance the natural quality of Danville’s creeks, including the riparian vegetation along the banks. Setbacks should be maintained along creeks to maintain their natural appearance, reduce erosion and flood hazards, and protect their ecological functions.	<ul style="list-style-type: none"> • Development Review • Stormwater Management and Discharge Control Ordinance • Public Works Standards • Creek Protection Program
22.02	Require qualifying new development projects and redevelopment projects to comply with the Municipal Regional Permit for stormwater control and treatment.	<ul style="list-style-type: none"> • Intergovernmental Coordination • Stormwater Management and Discharge Control Ordinance • RWQCB-SF Bay MRP
22.03	Conduct education and outreach activities to increase public awareness of water quality issues and the steps Danville residents and businesses can take to reduce water pollution.	<ul style="list-style-type: none"> • Stormwater Management and Discharge Control Ordinance • RWQCB-SF Bay MRP
22.04	Manage the Town’s storm drainage facilities in a manner which minimizes pollution of local streams and waterways. Storm drains and other drainage facilities should be regularly maintained.	<ul style="list-style-type: none"> • Stormwater Management Program • RWQCB-SF Bay MRP
23.01	<p>Share information about important local biological, productive, and historic resources with other communities and agencies in the region and work with these communities and agencies to protect such resources.</p> <p><i>To carry out this policy, the Town will establish a clearinghouse of information for public use related to the protection of sensitive biological and wetland resources. It will also maintain a list of contacts for the agencies responsible for resource protection, and encourage programs dedicated to the restoration and management of Danville’s remaining natural areas.</i></p>	<ul style="list-style-type: none"> • Intergovernmental Coordination

POLICIES: ENVIRONMENTAL QUALITY		IMPLEMENTATION MEASURES
23.02	Work with other communities and agencies to protect and enhance the significant ecological communities of the Tri-Valley area, including wetlands, riparian areas, and oak woodlands.	<ul style="list-style-type: none"> • Intergovernmental Coordination • Park and Open Space Dedication/Acquisition
23.03	Promote a regional approach to protecting sustainable habitat in the Danville Planning Area, through mitigation banking and other means.	<ul style="list-style-type: none"> • Intergovernmental Coordination • CEQA
23.04	Support efforts to incorporate Danville’s scenic ridgelines into a larger, regional open space framework that connects parts of the Tri-Valley area.	<ul style="list-style-type: none"> • Intergovernmental Coordination • Park and Open Space Dedication/Acquisition
23.05	Continue cooperative planning and implementation efforts at the countywide level to ensure that qualifying new development projects and redevelopment projects comply with the hydro-modification plan/program requirements imposed through the Municipal Regional Permit.	<ul style="list-style-type: none"> • Intergovernmental Coordination • SF Bay-RWQCB MRP
23.06	Work with other jurisdictions and water providers to ensure a sufficient and sustainable long-term supply of potable water for existing Danville customers and for future development that is consistent with the goals of this General Plan.	<ul style="list-style-type: none"> • Intergovernmental Coordination
23.07	Recognize the state and federal regulations that serve to protect wetlands and require full compliance with these regulations as part of development review. This would include detailed wetland delineations and assessments where waters under the jurisdiction of the U.S. Army Corps of Engineers may be affected.	<ul style="list-style-type: none"> • Intergovernmental Coordination • Development Review

HAZARDS

A. SETTING

Hazards are natural conditions and human activities that threaten public health and safety. Natural hazards in Danville include geologic hazards, fire hazards, and flood hazards. Man-made hazards include noise, air and water pollution, and toxic chemicals. Air pollution is addressed in the next section of this Chapter (on greenhouse gases) and water pollution is addressed in the previous section (on stormwater management). The Hazards section of the General Plan also addresses emergency management, and the steps the Town will take to minimize the loss of life and property in the event of a disaster.

Existing conditions in Danville in relation to these potential hazards are described below. **Figure 22** presents a Map of environmental hazards in Danville, including wildfire threat and landslide hazards. **Figure 23** displays additional hazards, including seismic risks, flood-prone areas, and areas subject to freeway-related air pollution.

GEOLOGIC, SEISMIC, LANDSLIDE AND SOIL EROSION

Geologic hazards in Danville are associated with the complex topographic and geologic features of the San Ramon Valley. These hazards include:

- Seismically induced hazards, that is, those hazards related to earthquakes, including groundshaking, surface rupture, ground failure and seismically induced landslides.
- Hazards associated with certain soils, bedrock, steep slopes, and land subdivision that occur naturally or that are induced, including slope instability, landslides caused by construction activity, land subsidence, and the shrink/ swell characteristics of soils.

Seismic Hazards

Like the rest of the Bay Area, the San Ramon Valley is subject to a dynamic process of geologic change. The major tectonic forces that have created and shaped the region continue to this day. The most evident examples of this continuing geologic change are fractures in the earth's surface known as faults, and the sudden movements along these faults that cause earthquakes. The major fault traces in the Bay Area, the Hayward and San Andreas Faults, lie 12 and 24 miles to the west of the San Ramon Valley, respectively.

A number of active faults paralleling and associated with the San Andreas Fault are found in and near the Valley, including the Calaveras Fault, the Pleasanton Fault, the Bollinger Fault, and the Mt. Diablo Fault.

The Calaveras Fault was named for Calaveras Creek in Santa Clara County east of San Jose. The Fault, which extends north from Hollister in San Benito County for some 100 miles to Mt. Diablo, is a major branch of the San Andreas Fault. Between the San Andreas Fault and the Calaveras Fault lies the Hayward Fault, diverging from the Calaveras Fault east of San Jose. To the east lies the Clayton-Marsh Creek-Greenville Fault.

These four fault structures constitute some of the major faults in California at the latitude of San Francisco. The 2011 Hazard Mitigation Plan for Contra Costa County indicates there is a 75 percent of a magnitude 7.0 or greater earthquake in the Bay Area during the next 30 years. In 2002, the USGS estimated an 11 percent probability for one or more magnitude 6.7 or greater earthquakes by 2032 on the Calaveras Fault alone. The last earthquake to rupture the Calaveras measured 6.2 on the Richter scale and occurred in 1984 along the Morgan Hill section of the fault. **Figure 23** indicates the location of the Calaveras Fault and the Alquist Priolo Special Study Zone in Danville. Although not depicted on the map, the Hayward, Clayton-Marsh Creek-Greenville and San Andreas Faults are also capable of producing significant ground shaking in Danville.

The Calaveras Fault Zone has been designated as a Special Study Zone by the State Division of Mines and Geology pursuant to the Alquist-Priolo Special Study Zones Act. Within the Special Study Zone, geologic investigations are required to determine the precise location of active fault traces prior to approving a development project. Structures must be set back 50 feet from the fault trace and engineered to reduce potential earthquake damage.

Although damage from ground rupture associated with faults is of concern, damage from ground shaking is a more widespread and potentially damaging phenomenon. Potential damage from ground shaking is related to the location of a building and its construction. In hillside areas, earthquakes may trigger landslides. In flat, valley areas, the deep, alluvial soils may increase the amplitude and duration of earthquakes.

Landslide and Erosion Hazards

Steep topography, fractured and unconsolidated bedrock conditions, expansive soils, and high erosion potential combine to make some of the hillside areas in the San Ramon Valley highly unstable. Landslides resulting from natural conditions or caused by construction activity are common occurrences in the hillsides. Nearly 50 percent of Danville is located on hillsides, including the Las Trampas Ridge area and the hills paralleling the Sycamore Valley. There are numerous traces of landslide activity in these areas and the potential for future landslides is high.

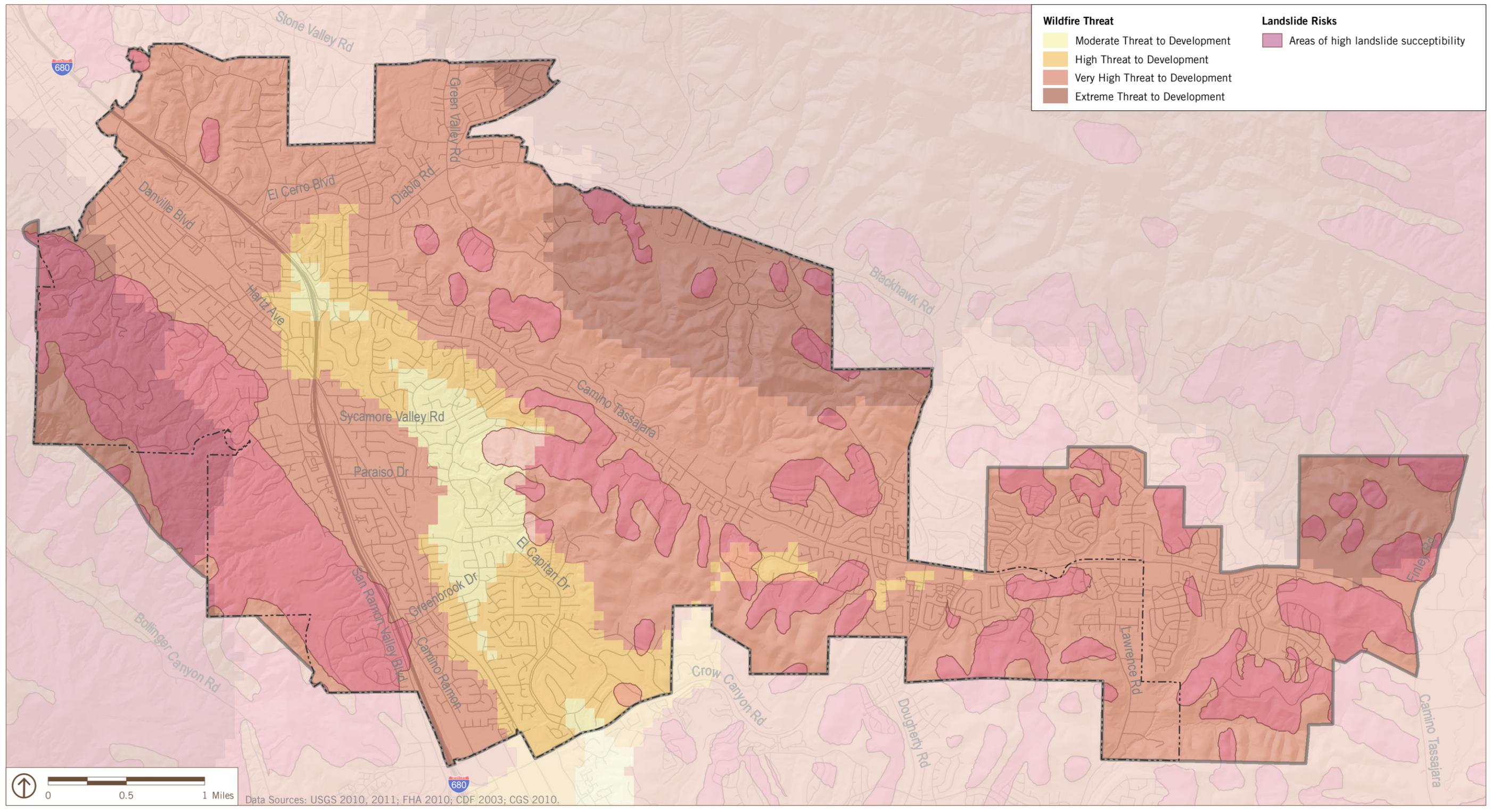
While landslides may occur on slopes of 15 percent or less in unstable areas, the risks are usually proportional with steepness of slopes. Areas where old slide deposits are evident are the most subject to failure. Hillside areas are also

subject to soil erosion, which can contribute to instability of slopes, loss of vegetation, downstream flooding, sedimentation, and stream bank failure. Soil erosion is generally proportional to steepness of slope and occurs mainly during peak rainfall, when runoff volumes are high.

FIRE

While Danville's woodlands, grasslands, and chaparral areas provide important open space, natural resources, and scenic qualities, they also create a fire hazard, especially when development is located in or adjacent to these areas. Wildfires in these areas can become a hazard to life and property during the summer and fall dry seasons, especially during periods of low humidity and high winds. Since most urban wildfires are caused by people, increased access to high fire hazard areas will increase the risk of fires.

Consistent with State law, the Town declared certain areas in Danville in 2008 as Very High Fire Hazard Severity Zones. The areas receiving this designation were in the vicinity of Magee Ranch, off of Diablo Road, where single family homes are in immediate proximity to fire-prone hillsides. Existing developed areas located in proximity to the Las Trampas Ridge and the hillside areas of the Sycamore Valley are particularly subject to wildfire risks. Buildings on properties in the Very High Fire Hazard Severity Zone must comply with specified building requirements which increase their ability to resist the intrusion of flames or burning embers by a vegetation fire. **Figure 22** includes a graphic depiction of areas in Danville subject to high wildfire risk and specifies the areas now declared Very High Fire Hazard Severity Zones.



--- Town Limit □ Planning Area Boundary

FIGURE 22
WILDFIRE AND LANDSLIDE HAZARDS (2012)

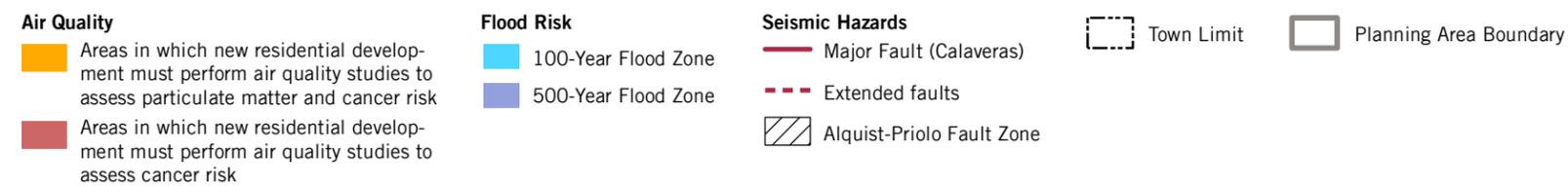
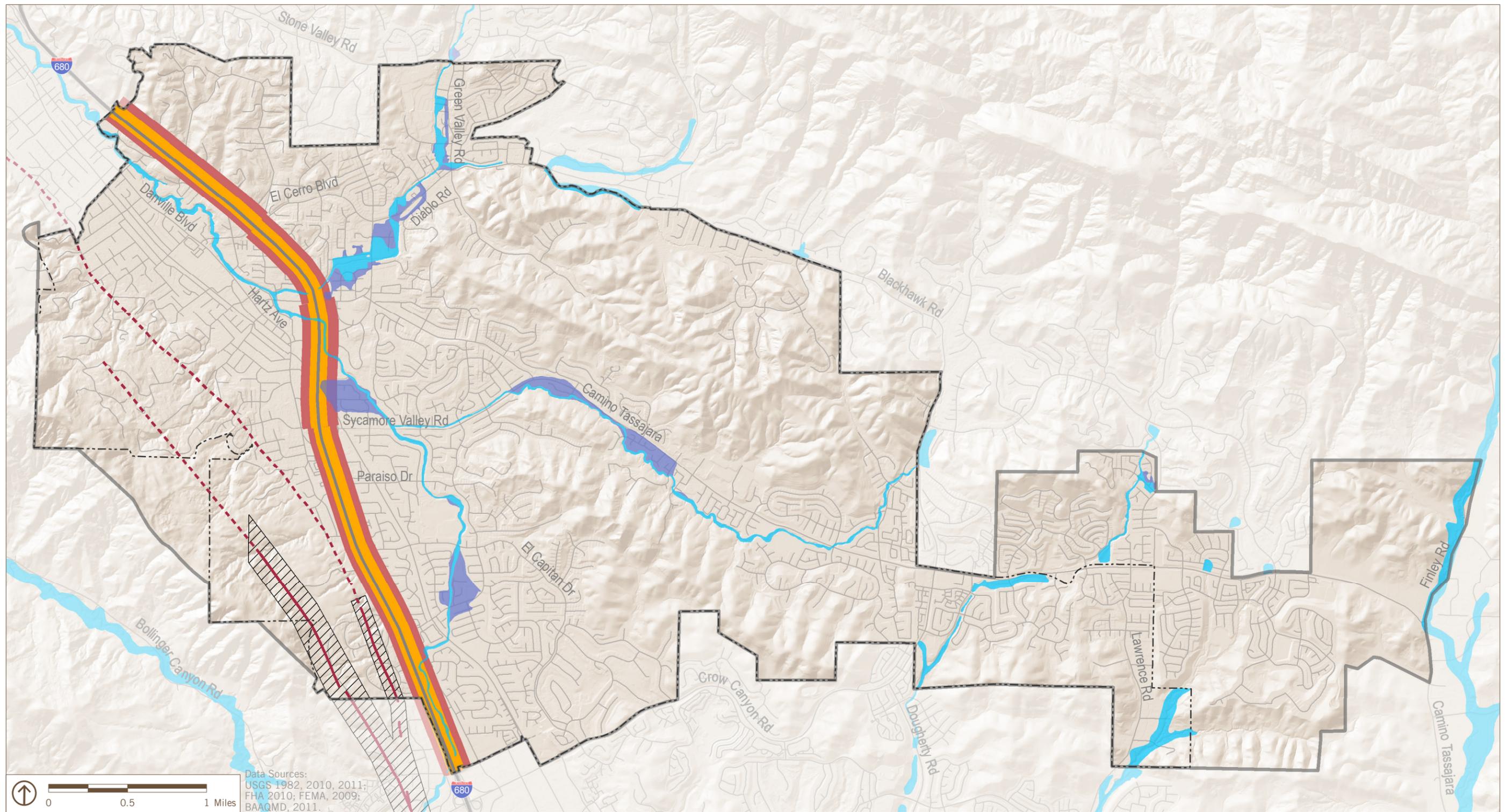


FIGURE 23
AIR QUALITY, FLOOD RISK, AND SEISMIC HAZARDS (2012)

FLOODING

Flooding in Danville does not pose a significant hazard to life and property, but some areas along major creeks and near the confluence of creeks are subject to periodic inundation. The flooding that does occur is caused by winter rains. Portions of San Ramon Creek and one of its major tributary streams, Green Valley Creek, are subject to flooding. These areas are identified on **Figure 23**.

The Contra Costa County Flood Control and Water Conservation District, with assistance from the Soil Conservation Service, has reshaped and widened segments of San Ramon, Sycamore, and Green Valley Creeks and constructed various flood protection structures. These efforts, along with Danville's ongoing drainage maintenance efforts, have reduced the potential for serious floods.

The Federal Emergency Management Agency (FEMA) maintains maps indicating flood hazard areas (e.g., the "100-year flood plain") along Danville's creeks. These maps may be updated comprehensively by FEMA, or incrementally through "Letters of Map Revision" submitted to FEMA as local flood control projects are completed. Such revisions were made along Sycamore Creek following construction of an earthen berm when adjacent land was developed. Some of the areas identified on the FEMA maps continue to have the potential for infrequent flooding, including the Willow Glen area along Green Valley Creek and areas along Laurel Drive and Greenbrook Drive along San Ramon Creek. Flood control improvements have not been undertaken in these areas due to the high cost and potential adverse aesthetic and ecological effects of such improvements. The Town supports flood control improvements that strive to retain the natural creek environment rather than those that simply widen and/or deepen channels.

In developing areas, hydraulic studies are typically prepared to determine the extent of drainage improvements required to manage runoff and avoid future flood hazards on-site and downstream. Such studies were used to identify flood control improvements in the Sycamore

Valley and are being used to identify developer contributions for drainage improvements in the Alamo Creek watershed on Danville's east side. On most large sites, stormwater retention basins are required, reducing the need for more disruptive improvements to the creek itself.

NOISE

Danville's relatively quiet acoustical environment is an important component of the community's quality of life. Nearly one half of Americans with hearing impairments owe their hearing losses to noise exposure. In addition to being a potential health hazard, noise is a source of annoyance, discomfort, and sleep interference, disrupts communication and relaxation, and may affect behavior. Certain land uses are particularly sensitive to noise, including schools, child care facilities, rest homes, long-term medical facilities, and parks and recreation areas. Residential areas are also considered noise-sensitive, especially during the nighttime hours.

Excessive noise levels in Danville are caused primarily by automobile traffic on the I-680 freeway and major thoroughfares. Noise associated with construction activity can also be a significant noise source in the community. Noise is also associated with everyday activities around Danville's neighborhoods, such as leaf blowing and lawn mowing.

Figure 24 shows noise contours and readings along major thoroughfares in Danville in 2011. **Figure 25** shows projected noise contours and readings along major thoroughfares in Danville in 2030. **Figure 25** indicates that noise levels are anticipated to increase along I-680 as a function of projected increases in traffic volume. The Land Use Compatibility Guidelines for Exterior Noise Levels, prepared by the California Office of Planning and Research, provide generalized direction for locating development in proximity to noise generating activities or sources (see **Figure 26**).

Sound walls presently exist along most sections of the I-680 freeway, mitigating the effects of

freeway noise for adjacent properties. However, by 2010, increased traffic along the freeway will result in a larger number of properties falling within the 60 dB noise contour. The Town will support additional measures to mitigate future increases in noise levels, such as tree planting and further insulation of residences in noise-prone areas. The Noise Ordinance will be strengthened to address issues such as construction noise and noise from commercial uses near residential areas.

EMERGENCY PREPAREDNESS

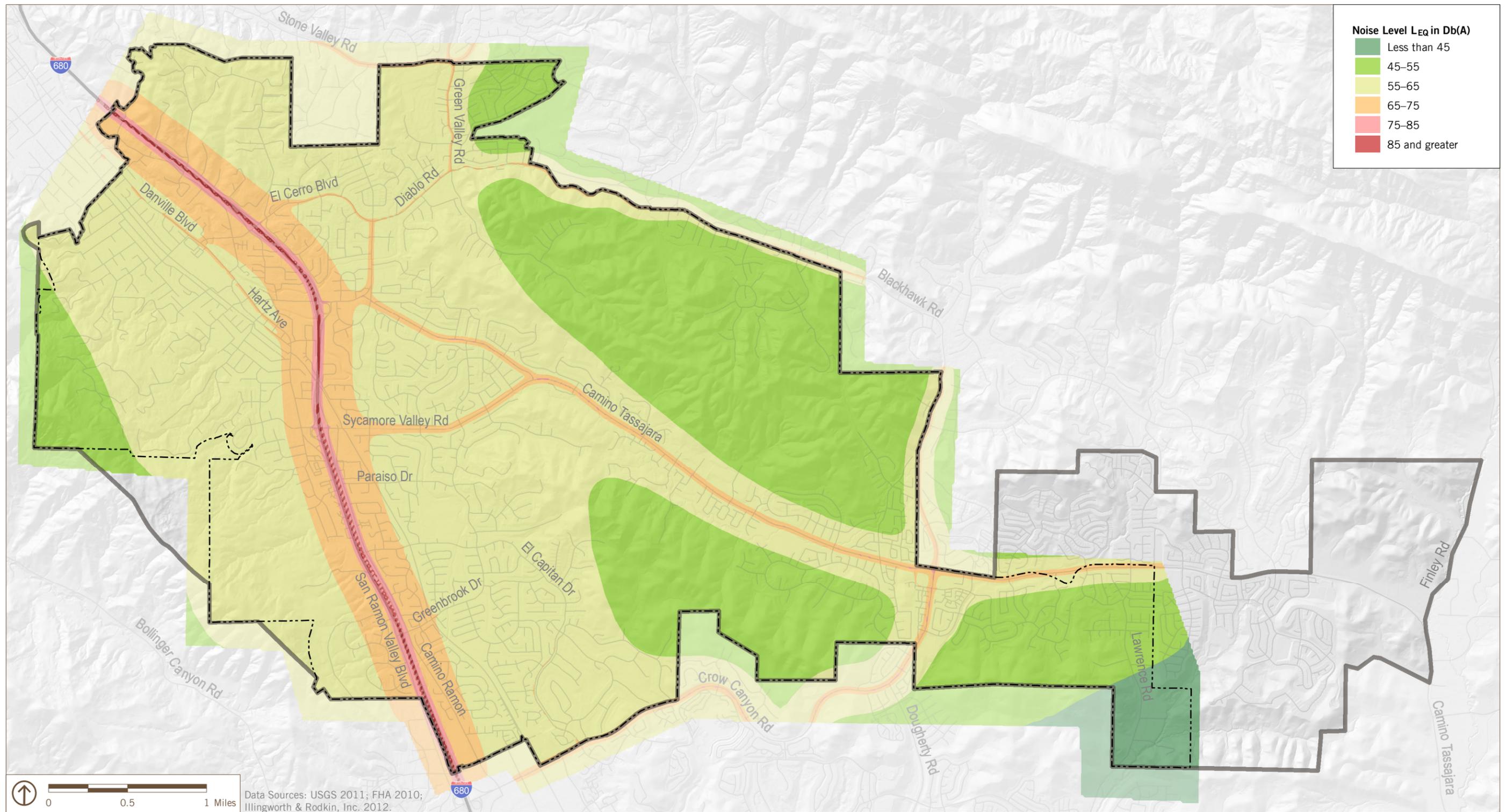
Emergency preparedness refers to a variety of activities associated with preparing for, responding to, and recovering from a disaster. An essential part of preparedness involves reducing exposure to hazards before a disaster and minimizing risks to life and property during a disaster. Planning ahead can substantially reduce costs associated with disasters, protect critical community facilities,

reduce exposure to liability, and facilitate recovery. Planning is also mandatory to be eligible for certain federal disaster recovery funds.

In 2008, a coalition of 39 cities and special service districts in Contra Costa County embarked on a collaborative hazard mitigation planning process known as the Local Hazard Mitigation Program. The program was intended to pool resources and create a uniform strategy across the County for disaster preparedness. A number of potential disasters were considered, including earthquakes, landslides, wildfires, floods, drought, dam failure, and severe weather. The program included an assessment of these hazards in each jurisdiction, and a series of action strategies. The strategies are presented both for the County as a whole and for the individual partner jurisdictions, including the Town of Danville and the other municipalities, school districts, water districts, and other special districts that participated.

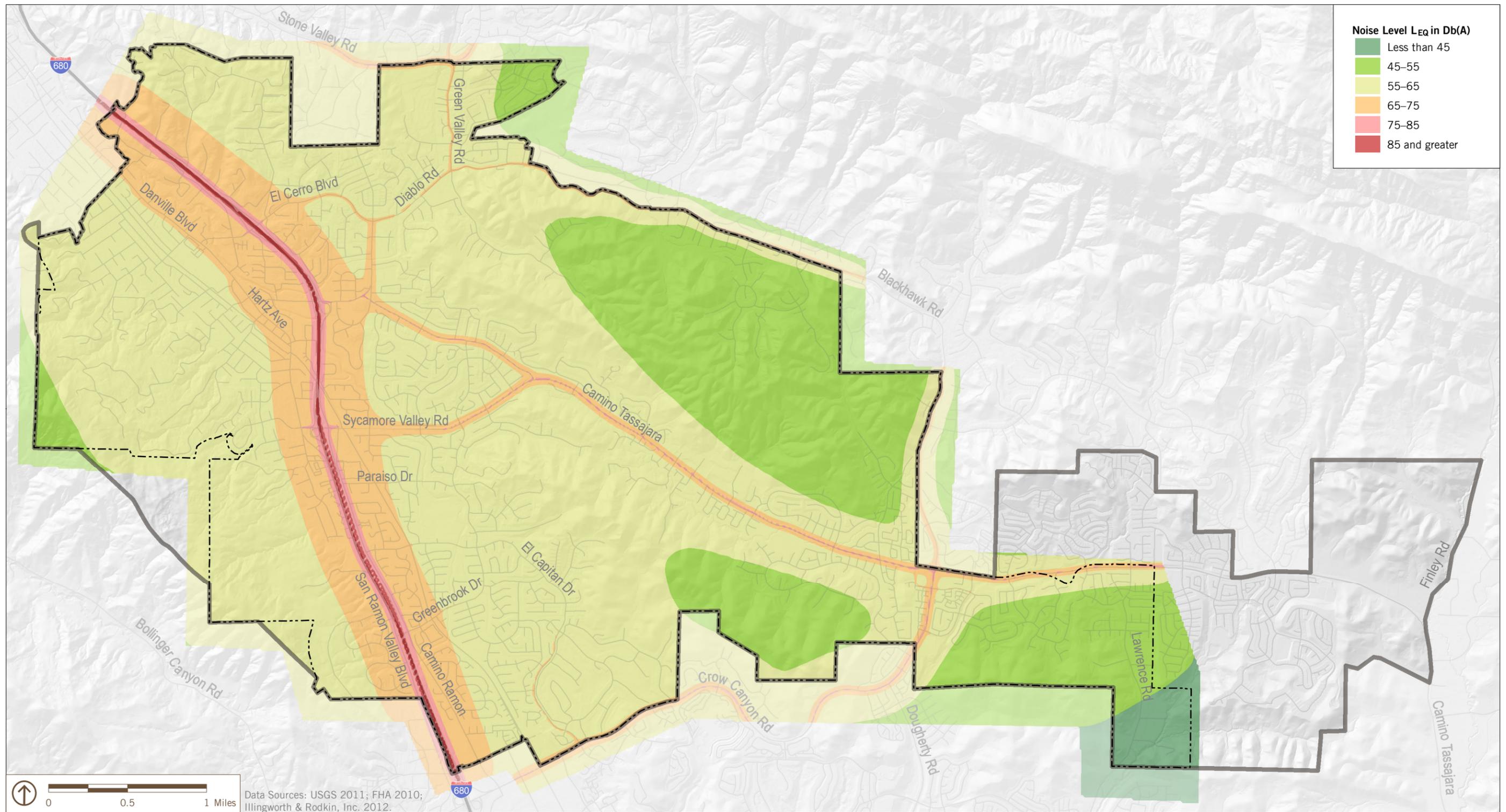


Emergency Preparedness planning activity



--- Town Limit □ Planning Area Boundary

FIGURE 24
NOISE CONTOURS (2012)



--- Town Limit — Planning Area Boundary

FIGURE 25
NOISE CONTOURS (2030)

FIGURE 26
LAND USE COMPATIBILITY GUIDELINES FOR
EXTERIOR NOISE LEVELS (2012)
TOWN OF DANVILLE

LAND USE CATEGORY	COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)			
	NORMALLY ACCEPTABLE	CONDITIONALLY ACCEPTABLE	NORMALLY UNACCEPTABLE	CLEARLY UNACCEPTABLE
Residential-Low Density, Single Family, Duplex, Mobile Homes	50-60	55-70	70-75	75-85
Residential – Multifamily	50-65	60-70	70-75	75-85
Transient Lodging – Motel, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	Not Applicable	50-70	Not Applicable	C
Sports Arenas, Outdoor Spectator Sports	Not Applicable	50-70	Not Applicable	C
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-70	Not Applicable	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	Not Applicable
Industrial, Manufacturing, Utilities, Agricultural	50-75	70-80	75-85	Not Applicable

CNEL = Community Noise Equivalent Level in A-weighted decibels (dBA)

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

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

NORMALLY UNACCEPTABLE: New construction or development should 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 must be included in the design.

CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken.

Source: California Office of Planning and Research, General Plan Guidelines, October 2003. Town of Danville, 2012.

Danville’s Local Hazard Mitigation Plan (LHMP) is an adopted document that supplements and expands on the General Plan’s broad policies. Although it not formally part of the General Plan itself, the General Plan has been written to provide a framework for the LHMP initiatives and proposals. Both documents are fully consistent with and support one another.

The overall goals of the LHMP are to save lives and reduce injury, increase the resilience of infrastructure and critical facilities, minimize damage to property, encourage effective mitigation projects, and build the capacity for local governments and the public to prepare, respond, and recover from future disasters. These goals are supplemented by more specific objectives, such as strengthening building code enforcement, lowering the cost of flood insurance premiums, and discouraging development in hazardous areas.

At the local level, the LHMP identifies 28 specific initiatives for Danville. Several of these initiatives relate to Town operations, including upgrading communication systems and radio system frequencies, providing back-up power sources for traffic lights, delivering sandbags, and retrofitting of Town structures (including the Veterans Memorial Building). Other initiatives address fire prevention, including road engineering standards and defensible space requirements. Preparedness training is also an important part of the LHMP, including training for residents and training for Town staff. A few of the LHMP initiatives relate to land use, including applying zoning which reflects hillside development constraints. Flooding-related initiatives include keeping creeks free of obstructions, improving culvert capacity under I-680, and improving aging infrastructure. There are also public education initiatives.

In addition to the LHMP, the Town of Danville has an Emergency Operations Plan (EOP) which is focused on disaster response and recovery.

The EOP identifies the roles of Town staff in the event of an emergency, designates an emergency control center, addresses provisions for shelter and emergency supplies, and provides basic protocol for emergency response. It includes guidelines for coordinating with state and federal agencies, and for deploying emergency response personnel. The EOP meets the State requirements defined by the Standard Emergency Management System (SEMS) and the Federal requirements defined by the National Incident Mangement System (NIMS), ensuring eligibility for funding in the event of a disaster.

Under the EOP, the Town Manager is designated as the Director of Emergency Services. The Town also has an Emergency Services Manager, and its Police and Fire Department are trained in a range of emergency response procedures. The Town also assists in the formation and training of Community Emergency Response Teams (CERT). The CERT program is designed to provide groups of Danville neighbors with basic disaster response skills. Danville also partners with the City of San Ramon, the San Ramon Valley Fire Protection District, and the San Ramon Valley Unified School District to coordinate disaster response and educate residents on preparedness measures.

B. FORECAST

Given the number of natural and man-made hazards in the San Francisco Bay Area, there is a possibility that the Town will experience deteriorating environmental conditions or catastrophic natural events during the time frame of the General Plan. The important fact about the risks to public health, safety, and property caused by hazards is that they can be significantly reduced by careful planning and emergency preparedness activities. The implementation measures and strategies included later in this Chapter address methods to reduce these risks.

C. GOALS AND POLICIES

Goals and Policies addressing Hazards are organized based on the four Hazard categories covered in the preceding section (geologic, fire, flooding, and noise) and two additional categories addressing: (a) Hazardous Materials and (b) Public Safety and Emergency Preparedness.

GOAL: GEOLOGIC, SEISMIC, LANDSLIDE, AND SOIL EROSION HAZARDS

Goal 24: Minimize the risks to lives and property due to earthquakes, landslides, and other geologic activity.

POLICIES: GEOLOGIC, SEISMIC, LANDSLIDE, AND SOIL EROSION HAZARDS		IMPLEMENTATION MEASURES
24.01	Recognize local seismic risks and incorporate earthquake protection measures in the development review process.	<ul style="list-style-type: none"> • Development Review
24.02	Prohibit construction of any new facilities serving public safety needs such as fire stations and hospitals in the Alquist-Priolo Earthquake Special Studies Zones.	<ul style="list-style-type: none"> • CEQA • Development Review
24.03	Require soils and geologic reports for all projects proposed in scenic hillside development areas, as defined by the Town’s Scenic Hillside and Major Ridgeline Development Ordinance, and in other areas where the potential for landslides, liquefaction, subsidence, or severe ground shaking exists. Assure that development in these areas mitigates potential landslide hazards and other geologic hazards.	<ul style="list-style-type: none"> • Hillside/Ridgeline Ordinance • Development Review • Geologic Hazards Abatement Districts
24.04	Require all development on hillside sites to be designed and constructed to minimize cutting and filling of slopes, avoid high risk landslide areas, and fully address environmental and aesthetic concerns.	<ul style="list-style-type: none"> • Hillside/Ridgeline Ordinance • Grading Ordinance • Development Review • Hillside Development Guidelines

POLICIES: GEOLOGIC, SEISMIC, LANDSLIDE, AND SOIL EROSION HAZARDS		IMPLEMENTATION MEASURES
24.05	<p>Prohibit the division of land in a manner that would create a new parcel that is entirely 30 percent slope or greater, unless the intended use of the new parcel is open space.</p> <p><i>The policy above is intended to prohibit lot splits and subdivisions on slopes greater than 30 percent. The policy does not preclude the development of an individual home on an existing legally created lot if that lot is greater than 30 percent slope. The policy also does not preclude the subdivision of sites which contain a mix of areas above and below 30 percent slope, provided all future building sites will be on land that is less than 30 percent slope.</i></p>	<ul style="list-style-type: none"> • Zoning Ordinance • Development Review
24.06	<p>Require that roads and drainage systems constructed in hillside areas are engineered to standards that prevent excessive maintenance and repair costs.</p>	<ul style="list-style-type: none"> • Public Works Standards • Development Review
24.07	<p>Maintain structural design and engineering standards which ensure that buildings and infrastructure are constructed to minimize damage resulting from expansive soils, erosion, subsidence, and other local geologic conditions.</p>	<ul style="list-style-type: none"> • Public Works Standards • Development Review • Building Code • Gas Shut-Off Devices Ordinance
24.08	<p>Encourage the retrofitting of existing structures to reduce the potential for damage during a major earthquake, particularly residential soft-story structures and critical public facilities.</p> <p><i>A “soft-story” building is a multi-story building with a ground floor that may not sufficiently support the upper floors during a major earthquake. An example would be an apartment building with large “tuck under” carports on the first floor. Such buildings can be made more secure by installation of shearwalls and other types of bracing that address lateral stress.</i></p>	<ul style="list-style-type: none"> • Local Hazard Mitigation Plan

POLICIES: GEOLOGIC, SEISMIC, LANDSLIDE, AND SOIL EROSION HAZARDS		IMPLEMENTATION MEASURES
24.09	<p>Ensure that development approvals do not result in the loss of unique paleontological resources or geological features.</p> <p><i>This should be accomplished by consulting with a suitably qualified paleontologist or geologist if it is known, or determined, that fossils, or geological features of high scientific value are, or may be, present on land that will be developed. The Town will require consultation with a paleontologist if vertebrate fossils are uncovered during site excavation.</i></p>	<ul style="list-style-type: none"> • Development Review • CEQA
24.10	<p>Require submittal of a Geotechnical report by a qualified engineering geologist, that specifies the location of active faults, and recommends appropriate setbacks prior to construction of any structure intended for human occupancy within the Alquist-Priolo Fault Zone.</p>	<ul style="list-style-type: none"> • Development Review • Zoning Ordinance



Landslide

GOAL: FIRE HAZARDS

Goal 25: Prevent catastrophic fires and minimize the loss of property and life due to fire hazards in Danville.

POLICIES: FIRE HAZARDS		IMPLEMENTATION MEASURES
25.01	Require safe roofing and other fire prevention standards for development in high fire hazard areas by maintaining a Fire Safe Roofing Ordinance, in coordination with the San Ramon Valley Fire Protection District.	<ul style="list-style-type: none"> • Fire Safe Roofing Ordinance • Building Code • Very High Fire Hazard Severity Zones
25.02	Cooperate with the San Ramon Valley Fire Protection District in efforts to reduce fire risks through controlled burning and fuel removal.	<ul style="list-style-type: none"> • Intergovernmental Coordination • Code Enforcement
25.03	Assure provision of adequate access for fire equipment to all developed and open space areas. <i>This should include turn-around areas at the end of dead-end public streets, and minimum road widths of 20 feet in high wildfire hazard areas. Consistent with the Local Hazard Mitigation Plan, an additional 10 foot clearance area should be maintained on the shoulders of driveways and road segments more than 50 feet long within high fire hazard areas.</i>	<ul style="list-style-type: none"> • Development Review • Public Works Standards
25.04	Maintain a response time of less than five minutes for emergency fire calls, to be met a minimum of 90 percent of the time and/or a fire station within 1.5 miles of all residential and nonresidential development. Where this standard cannot be met, and/or where severe wildland fire hazards exist, require special mitigation measures for fire prevention as necessary.	<ul style="list-style-type: none"> • CEQA • Development Review • Building Code • Very High Fire Hazard Severity Zones
25.05	Prior to project approval, require written verification from the San Ramon Valley Fire Protection District on the anticipated response time to the project and the distance from existing stations.	<ul style="list-style-type: none"> • Development Review • Intergovernmental Coordination
25.06	Require the maintenance of “defensible space” (e.g., areas free of highly flammable vegetation) around homes in fire-prone areas. Require the clearing or thinning of fire-prone vegetation within 30 feet of access and evacuation routes, and routes to critical facilities.	<ul style="list-style-type: none"> • Code Enforcement

GOAL: FLOODING HAZARDS

Goal 26: *Reduce the potential for flooding and minimize the risks to life and property resulting from flooding that does occur in Danville.*

POLICIES: FLOODING HAZARDS		IMPLEMENTATION MEASURES
26.01	Take appropriate steps in the development review process to protect life and property from flooding and erosion along local creeks.	<ul style="list-style-type: none"> • Development Review
26.02	Restrict new development in floodways and flood plains in accordance with FEMA requirements.	<ul style="list-style-type: none"> • Development Review • Zoning Ordinance
26.03	Require that new development result in runoff rates that are within the 100-year flood capacity of the Town flood control system.	<ul style="list-style-type: none"> • Development Review
26.04	Cooperate with the Contra Costa County Flood Control and Water Conservation District in watershed evaluations and projects intended to reduce flood hazards.	<ul style="list-style-type: none"> • Flood Plain Management Program • Intergovernmental Coordination
26.05	Work in conjunction with the Contra Costa County Flood Control and Water Conservation District to maintain natural creek settings to the extent possible while providing for adequate drainage capacity.	<ul style="list-style-type: none"> • Flood Plain Management Program • Intergovernmental Coordination
26.06	Encourage, and where appropriate require, the use of detention basins by developers to reduce peak stormwater runoff during significant rainfall events. No net increase in peak flow runoff should be allowed unless adequate drainage capacity exists or other mitigation measures are provided. Where feasible, support the use of common detention facilities serving more than one development.	<ul style="list-style-type: none"> • Development Review • Public Works Standards
26.07	<p>Make structural improvements to public storm drains, pipelines, and channels where needed to ensure that these facilities can perform to their design capacity in handling stormwater flows.</p> <p><i>Policies 26.06 and 26.07 are supplemented by policies under Goal 21 in the Public Facilities Chapter on infrastructure maintenance.</i></p>	<ul style="list-style-type: none"> • Capital Improvement Program

GOAL: NOISE

Goal 27: *Protect existing and future residents of Danville from hazards and nuisance associated with excessive levels of noise by maintaining or reducing noise intrusion levels in all areas of the Town to acceptable levels.*

POLICIES: FLOODING HAZARDS		IMPLEMENTATION MEASURES
27.01	<p>Ensure that new residential development projects meet acceptable noise level guidelines, as shown in Figure 26.</p> <p><i>If an area currently meets desired noise standards, an increase up to the maximum acceptable noise level should not necessarily be allowed. The potential for a proposed project to have adverse noise impacts should be evaluated based on the potential for adverse community response, regardless of the compatibility guidelines.</i></p>	<ul style="list-style-type: none"> • Noise Ordinance
27.02	<p>Require acoustical studies for major residential and other development projects, as appropriate, and impose noise mitigation measures accordingly.</p>	<ul style="list-style-type: none"> • Development Review • CEQA
27.03	<p>Protect the noise environment in existing residential areas. Where acceptable noise levels in residential areas (as shown on Figure 5—the Land Use Map) would be exceeded or further impacted as a result of new development or transportation improvements, require the use of noise mitigation measures, such as wall barriers, berms, mufflers, sound traps, and baffles to reduce noise intrusion.</p>	<ul style="list-style-type: none"> • CEQA • Noise Ordinance
27.04	<p>Encourage the location of noise-sensitive land uses away from noise sources or require appropriate noise screening.</p>	<ul style="list-style-type: none"> • Land Use Map • Zoning Ordinance
27.05	<p>Open space should be used, wherever practical, to provide an adequate spatial separator between noise sources and sensitive land uses.</p>	<ul style="list-style-type: none"> • Land Use Map • Zoning Ordinance
27.06	<p>Review and update the existing Noise Ordinance to specify and regulate the noise levels for various equipment, activities, and land uses and to clarify enforcement procedures.</p>	<ul style="list-style-type: none"> • Noise Ordinance
27.07	<p>Protect parks and recreational areas from excessive noise to permit the enjoyment of sports and other leisure time activities.</p>	<ul style="list-style-type: none"> • Development Review • Noise Ordinance

POLICIES: FLOODING HAZARDS		IMPLEMENTATION MEASURES
27.08	Require noise monitoring as needed to determine changes in noise levels over time, measure the effectiveness of project conditions of approval, and to ensure that appropriate mitigation programs are developed.	<ul style="list-style-type: none"> • Development Review • Noise Ordinance
27.09	<p>Generally maintain exterior noise levels below 60 Ldn in areas where outdoor use is a major consideration, such as in residential backyards. Where the Town determines that this level cannot be achieved after reasonable mitigation has been applied, higher standards may be permitted at the discretion of the Town Council. In such cases, indoor noise levels should not exceed an Ldn of 45 dB.</p> <p><i>Development sites exposed to noise levels exceeding 60 Ldn shall be analyzed following protocols in Appendix Chapter 12, Section 1207 Sound Transmission of the 2010 California Building Code (or the latest revision).</i></p>	<ul style="list-style-type: none"> • Development Review • Noise Ordinance
27.10	Allow selected outdoor concerts and other community events that are sponsored or approved by the Town and take place at appropriate locations and at appropriate times, even though such events may exceed the noise compatibility guidelines for brief durations.	<ul style="list-style-type: none"> • Noise Ordinance
27.11	Ensure that the design of new development near major noise sources (such as Interstate 680) reduces the potential for future occupants to be exposed to high levels of noise. Development on such properties should incorporate appropriate noise mitigation measures.	<ul style="list-style-type: none"> • Development Review
27.12	<p>Require the preparation of groundborne vibration studies by qualified professionals in accordance with industry-accepted methodology where heavy construction activities involving significant site grading, underground, or foundation work will occur within 50 feet of residential or other vibration sensitive uses.</p> <p><i>Vibration studies may also be required for projects involving significant increases in the operation of heavy vehicles such as trucks and buses. Applicable and feasible vibration reduction measures shall be incorporated into project plans.</i></p>	<ul style="list-style-type: none"> • Development Review
27.13	<p>Utilize noise reduction measures during all phases of construction activity to minimize the exposure of neighboring properties to excessive noise levels.</p> <p><i>Construction activities are required to comply with the Town's noise ordinance limitations on hours and days of operations.</i></p>	<ul style="list-style-type: none"> • Development Review • Zoning Ordinance

GOAL: HAZARDOUS MATERIALS

Goal 28: *Minimize the risk of personal injury and property damage resulting from the production, use, storage, disposal and transportation of hazardous materials.*

POLICIES: FLOODING HAZARDS		IMPLEMENTATION MEASURES
28.01	Promote the reduction, recycling and safe disposal of household hazardous wastes through public education and awareness of available resources.	<ul style="list-style-type: none"> Public Education and Outreach
28.02	Require a Phase I Environmental Site Assessment (ESA) when development changes an existing use to a more sensitive use (e.g., commercial use to residential use). If potential hazardous materials concerns are identified, ensure that they are investigated and that sites are cleaned up to residential standards under appropriate regulatory agency oversight prior to development.	<ul style="list-style-type: none"> Development Review CEQA
28.03	Support and implement policies contained in the Contra Costa County Hazardous Waste Business Plan Program that encourage and assist the reduction of hazardous waste from businesses and residences in Danville.	<ul style="list-style-type: none"> Intergovernmental Coordination Public Education and Outreach
28.04	Support and implement policies contained in the Contra Costa County Hazardous Materials Program that provide procedures for hazardous materials incidents response.	<ul style="list-style-type: none"> Local Hazard Mitigation Program
28.05	As appropriate, incorporate hazardous building materials abatement provisions into zoning and subdivision decisions and entitlement permits.	<ul style="list-style-type: none"> Zoning Ordinance Development Review
28.06	Maintain and periodically update a Local Hazard Mitigation Plan which guides disaster-related risk reduction activities. Review the plan and amend it regularly to continually explore opportunities for vulnerability reduction.	<ul style="list-style-type: none"> Local Hazard Mitigation Program

GOAL: PUBLIC SAFETY

Goal 29: *Maintain a high level of emergency preparedness in Danville to protect public health and safety in the event of a natural or human caused disaster.*

Goal 30: *Maintain a high level of community safety and security for Danville residents.*

POLICIES: PUBLIC SAFETY AND EMERGENCY PREPAREDNESS		IMPLEMENTATION MEASURES
29.01	Participate in cooperative regional efforts to prepare for and reduce damage from natural hazards such as wildfires, earthquakes, landslides, and floods.	<ul style="list-style-type: none"> • Intergovernmental Coordination • Local Hazard Mitigation Plan
29.02	<p>Provide ongoing public education to help Danville residents and businesses be better prepared for disasters. This could include maps of natural hazards and evacuation routes, information on emergency preparedness and procedures, and other related information.</p> <p><i>Community Emergency Response Team (CERT) Training provides an opportunity for residents to learn how to mitigate hazards around their homes, such as using fire-resistant roofing, maintaining defensible space, and completing structural retrofits.</i></p>	<ul style="list-style-type: none"> • Local Hazard Mitigation Plan • CERT Training • Gas Shut-Off Devices Ordinance
29.03	Provide for emergency traffic control plans in collaboration with other jurisdictions in the San Ramon Valley. These plans should identify evacuation routes and measures for accommodating traffic in the event of a planned or emergency closure of the I-680 freeway or other major circulation route within the community.	<ul style="list-style-type: none"> • Emergency Operations Plan
29.04	Strive for improved communications and response capabilities in the event of a disaster, including a resilient Emergency Operations Center and expanded radio transmission capacity.	<ul style="list-style-type: none"> • Emergency Operations Plan
29.05	Reduce hazards associated with dam failure at Prospect Reservoir by ensuring maintenance by EBMUD and by including a dam failure component in the Town's emergency operations plan.	<ul style="list-style-type: none"> • Emergency Operations Plan • Intergovernmental Coordination

POLICIES: PUBLIC SAFETY AND EMERGENCY PREPAREDNESS		IMPLEMENTATION MEASURES
30.01	Maintain a police response time of no more than 5 minutes for 90 percent of all emergency (priority one) calls, exclusive of dispatch time and excluding 911 hang-ups. For all other police calls, maintain a maximum 20 minute response time for 90 percent of all such calls, again exclusive of dispatch time.	<ul style="list-style-type: none"> • Development Review • CEQA
30.02	Participate with other police departments to develop effective cooperative response agreements.	<ul style="list-style-type: none"> • Intergovernmental Coordination

SUSTAINABILITY

A. SETTING

The concept of “sustainability” is that natural resources should be managed so they are not permanently depleted or lost for future generations. In practical terms, a sustainable approach to planning and development avoids pollution, reduces waste, saves energy and water, reduces dependence on foreign oil, and helps people lead healthier lives. Sustainability underpins many of the goals of the General Plan, including those relating to land use and transportation. By focusing new development on key sites, a larger number of Danville residents will be able to walk, bicycle, or take public transportation to shop, work, or travel around the region. This will not only reduce traffic congestion, it will also help improve air quality.

Most of Danville was developed during a time when the automobile was the dominant form of transportation, fossil fuels were inexpensive, and roads were uncongested. As a result, the current development pattern in the Town is oriented toward low density housing and households with two or more cars. This character is not expected to change in the next 20 years. However, there are many steps that can be taken to make established neighborhoods more sustainable, particularly by reducing home energy and water consumption. Moreover, future development is likely to be designed differently than most existing development, with a greater emphasis on energy and water conservation.

The State of California has set goals of reducing statewide greenhouse gas emissions to 1990 levels by 2020, and 80 percent of 1990 levels by 2050. The Town has prepared a Sustainability Action Plan to present Danville’s strategy for working toward these targets.

The following sections highlight some of the ways Danville will grow more sustainably in the coming years, including a discussion of greenhouse gas emission strategies. The narrative also includes a discussion of air quality issues in Danville.

GREEN BUILDING

“Green building” is a term used to describe buildings which incorporate recycled materials and advanced energy and water conservation systems. Such buildings are designed and operated to minimize impacts on the environment, and enhance the health and well-being of occupants. Typical green building strategies include the use of light-colored materials to reduce heat build-up, motion activated light switches to save energy, graywater recycling systems, and solar panels. Green buildings are also designed to avoid indoor air quality problems, minimize exposure to toxic materials, and encourage pedestrian and bicycle access.

In 2008, the California Building Standards Commission (CBSC) amended the State’s building code standards to incorporate green building principles. The new code incorporates higher energy efficiency standards, along with new moisture control, indoor air quality, water conservation, and waste reduction measures. Additional guidelines for green building were prepared by the CBSC as part of the 2011 Code Update, and some of these guidelines may be incorporated by the Town of Danville in the future.

Benchmarks for defining green buildings have also been established by various organizations, including the US Green Building Council (USGBC) and Build it Green. The USGBC has developed the Leadership in Energy and Environmental Design (LEED) rating system to indicate the degree to which buildings and neighborhoods achieve environmental goals. Build it Green has developed a “green point” checklist for residential projects.

LOW IMPACT DEVELOPMENT

Low Impact Development (LID) refers to construction methods that reduce stormwater runoff. Allowing rainwater to percolate into the soil rather than flowing to storm drains provides many benefits, including reduced flood hazards, groundwater recharge, and filtration of pollutants. LID standards are an important part of the Town’s stormwater management program, described in

the first part of this Chapter (see Page 6-5).

SOLID WASTE AND RECYCLING

Waste reduction and recycling reduces goods consumption and disposal, thereby conserving natural resources and extending landfill capacity. This provides the added benefit of reducing greenhouse gas emissions (in particular, methane) from landfills. The 2010 General Plan established a goal of diverting 50 percent of Danville’s waste from landfills to comply with State law (AB 939). The Town has reached that goal and has embarked on additional programs to reach a 75 percent diversion rate. The Central Contra Costa Solid Waste Authority (CCCSWA) and the Town of Danville collaborate on e-waste and household hazardous waste recycling, bulk waste collection events, medical waste recycling, food scrap recycling, composting demonstration projects, and a range of educational and outreach initiatives. Waste reduction programs also have been implemented in Danville’s schools, reducing waste while educating students about the benefits of recycling and composting.

WATER CONSERVATION

California’s water supply is subject to increasing demand by a growing population and constrained supply due to periodic drought. Conservation has been an integral part of the state’s water management strategy for almost four decades. The Town of Danville has worked with East Bay Municipal Utility District (EBMUD) to implement programs to reduce water waste, encourage drought-tolerant landscaping, encourage the use of low-flow plumbing fixtures, and promote public education. The Town also participates in the San Ramon Valley Recycled Water Program (SRVRWP), a multi-phase project to reduce the use of domestic water for irrigating parks, golf courses, greenbelts, roadsides, and other landscaped areas.

ENERGY EFFICIENCY AND CONSERVATION

Energy efficiency and conservation programs

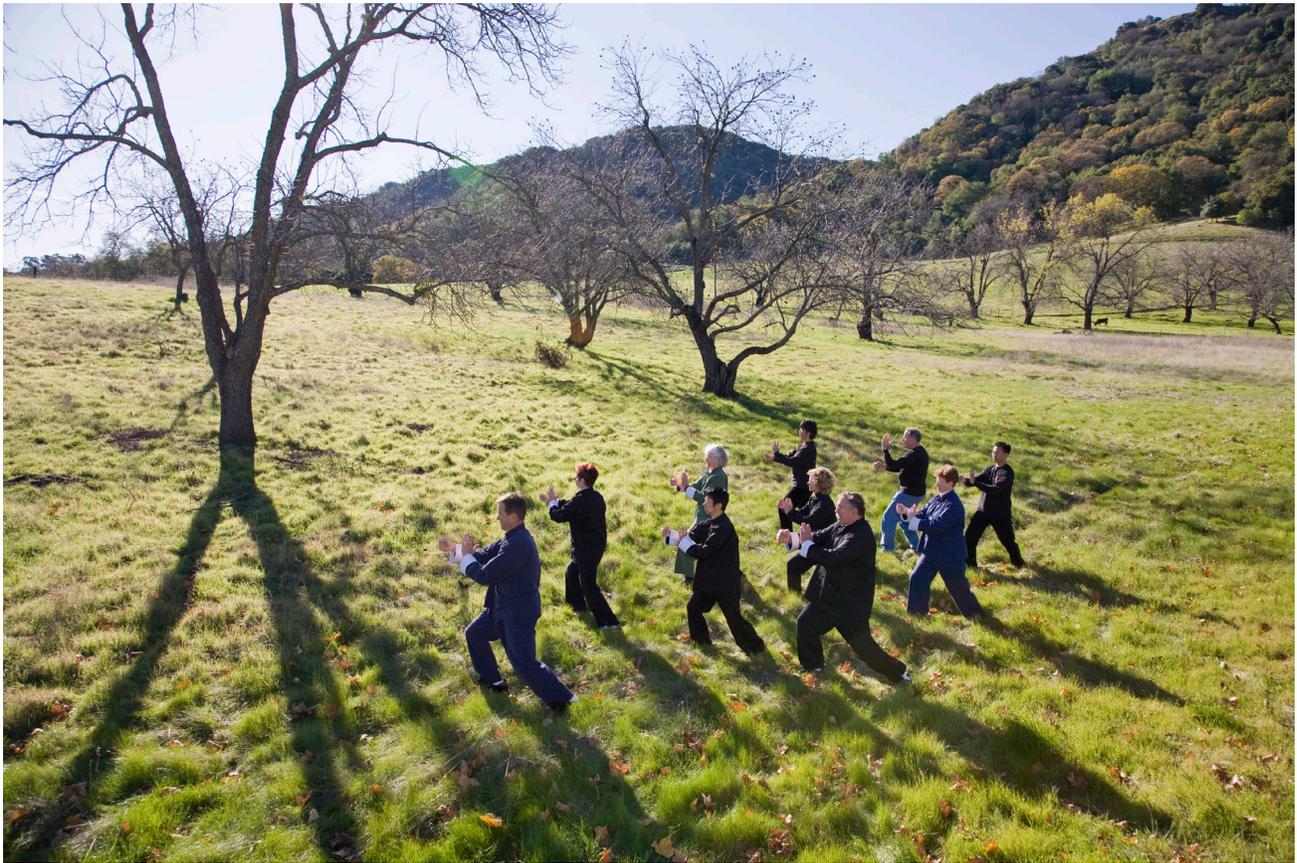
provide tangible measures to reduce fossil fuel consumption, improve air quality, reduce greenhouse gas emissions, and reduce heating and cooling costs. Electric and gas service in Danville is provided by Pacific Gas and Electric Company (PG&E). During the past decade, PG&E has generated a growing share of the region’s electricity from renewable, non-polluting energy sources. The utility continues to pursue alternatives to fossil fuels, such as solar and wind power.

Although energy supply and demand is a national issue, there is much that can be done at the local level. For example, Danville residents can become more self-reliant in the future by increasing their use of solar energy. Climate conditions in the Town are favorable to the use of photovoltaic systems, particularly for small scale applications such as water heating and swimming pools. More substantial reductions in energy usage can be achieved through retrofitting of existing homes for increased energy efficiency, which could include changes to windows, insulation, appliances, lighting, furnaces, and heating and cooling systems. The Town works with PG&E to encourage such measures, and to support energy audits which indicate ways to improve energy efficiency.

The Town of Danville also conducts plan checking as part of the building permit process. Plans for new or altered buildings are reviewed to ensure that they comply with State energy efficiency standards and CalGreen standards. The standards ensure that windows, doors, lighting, and other building components are designed to minimize energy waste (see also the Implementation section of this Chapter for additional discussion).

PUBLIC HEALTH AND WELLNESS

The design of a community can influence public health in many ways. For example, by making walking or bicycling a safe and practical alternative to driving, the Town can encourage physical fitness. “Bike to School” events and bike “expos” and rides such as those co-sponsored with Street Smarts can further raise awareness of the benefits of bicycling and reduce dependence on cars for short trips. By



Tai Chi at Tao House, Eugene O'Neill National Historic Site. Photo courtesy of Kyle Mix.

encouraging farmers markets and access to fresh foods and vegetables, the Town can support healthy eating and reduce food transportation costs.

Collectively, such steps can help address rising rates of obesity, asthma, diabetes, and other health issues. The Town also promotes public health through integrated pest management (i.e., non-toxic gardening and landscaping), household hazardous waste collection, and other measures to lessen the use and improper disposal of toxics. Designing for public health is an important part of creating a sustainable community.

AIR QUALITY

Clean air has historically been an important component of the quality living environment in Danville. Local air quality problems are principally caused by automobiles, in combination with local atmospheric conditions that occasionally limit the movement of air. The mountainous terrain on the west side of the San Ramon Valley blocks much of the marine air flow that characterizes the climate of the East Bay Plain. As an inland, protected valley,

the area has a higher frequency of calm conditions when compared to the rest of the Bay Area.

During the daytime, there are two predominant air flow patterns: an up valley, northerly flow and a westerly flow across the lower elevations of the Coast Range. Winds from both of these directions carry pollutants to Danville from upwind urbanized areas. Calm winter evenings can bring surface based inversions, while summer heat can bring high levels of ozone and smog.

Both the U.S. Environmental Protection Agency and the California Air Resources Board (CARB) have established measurable air quality standards for common pollutants. There are specific adverse health effects associated with exceeding the standards for each pollutant. In general, the state standards are more stringent than the federal standards. Among the pollutants of greatest concern are carbon monoxide, ozone, suspended particulate matter, sulfur dioxide, nitrogen dioxide, lead, and a variety of toxic air contaminants.

The CARB divides the state into air basins that

share similar meteorological and topographical features. Danville is located within the San Francisco Bay Area Air Basin (Basin). This Basin includes San Mateo, Santa Clara, Alameda, Contra Costa Napa, and Marin counties. State and federal air quality management programs in the Bay Area are administered by the Bay Area Air Quality Management District (BAAQMD). Among the BAAQMD's responsibilities are adopting and enforcing air pollution regulations, issuing and enforcing permits for stationary air pollution sources, monitoring air quality, and conducting public education campaigns such as "Spare the Air."

The BAAQMD operates a network of air quality monitoring sites in the region, although none are located in Danville. The closest air monitoring station is located in Concord at 2975 Treat Boulevard, located approximately 14 miles away from the town. While the site is not located within the San Ramon Valley, the data provides a reasonable characterization of Danville's air quality. Additional monitoring stations are located in Oakland, Hayward, and Livermore, each about 20 miles away.

During the most recent available period of data (i.e., 2009 to 2011), the federal 8-hour standard for ozone was exceeded five times and the state 8-hour standard for ozone was exceeded 14 times. During this same period, the federal standard for particulate matter (PM₁₀) (i.e., 65 micrograms per cubic meter over 24 hours) was never exceeded and the state standard was exceeded once. The federal standard for fine particulate matter (PM_{2.5}) was exceeded four times. All other state and federal standards were met for the 2009 to 2011 period.

The state and federal Clean Air Acts require that the Air Resources Board designate those air basins that do not meet air quality standards as "nonattainment areas." Because of the differences between the state and federal standards, the designation of nonattainment areas is different under the state and federal legislation. Under California law, the San Francisco Bay Area Air Basin is designated a nonattainment area for ozone, Particulate Matter, and Fine Particulate Matter. Under state law, areas are designated as

nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Under federal law, the San Francisco Bay Area Air Basin is designated a marginal nonattainment area for ozone (based on the federal 8-hour standard) and a non-attainment area for fine particulates.

The BAAQMD is required to develop plans demonstrating the steps local governments will take to achieve state and federal standards. The Clean Air Plan that was adopted in 2010 expanded the strategies that will be taken to address pollution in the future. These strategies generally address ozone and carbon monoxide (CO) rather than particulate matter due to the difficulty of controlling the main sources of particulates (dust and smoke). The common goal of ozone and CO strategies is to reduce automobile emissions. The BAAQMD has developed a list of transportation control measures (TCMs) aimed at achieving this goal. These are described in the Implementation section of this Chapter. The 2010 Clean Air Plan complements TCMs with land use measures that are intended to reduce vehicle miles traveled.

In 2011, BAAQMD updated its guidelines to evaluate air quality impacts from development projects. The guidelines strive to reduce the exposure of sensitive receptors such as housing and schools to substantial pollution sources, including freeways. BAAQMD recommends the designation of an approximate buffer zone on either side of freeways in which special air quality studies are required for new development, along with air pollution control measures (such as filtration systems) which reduce health hazards. This buffer area is shown on **Figure 23**.

GREENHOUSE GAS EMISSIONS

Overview

Greenhouse gases, or GHGs, are atmospheric gases that absorb and emit infrared radiation. They include carbon dioxide, methane, nitrous oxide, and other compounds.

In June 2005, California established GHG

emissions reduction targets through Executive Order S-3-05. In 2006, Assembly Bill (AB) 32, known as the California Global Warming Solutions Act, was adopted to further the goals of this Executive Order. The legislation sets a cap on statewide GHG emissions and establishes the regulatory framework to achieve corresponding reductions in statewide emissions levels. AB 32 charges the California Air Resources Board (CARB) with implementation of the act.

Greenhouse gases may originate from direct and indirect sources. Direct sources include stationary sources such as power plants and buildings, and mobile sources such as cars, trucks, and airplanes. Another direct source is associated with daily activities such as residential heating, painting, varnishing, and dry cleaning. Indirect sources include electricity consumption and water treatment. Although there are no power plants or water treatment plants in Danville, the Town contributes to the demand for these utilities, and thus accounts for a portion of their emissions.

In 2008, Senate Bill (SB) 375 was adopted to further reduce GHG emissions from automobiles and light trucks by requiring CARB to provide GHG emission reduction targets from the automobile and light truck sector. SB 375 directed CARB to calculate statewide emissions reduction targets and to assign regional emissions reduction targets to each metropolitan planning organization (MPO) in the State. The MPO for Danville is the Metropolitan Transportation Commission (MTC).

Greenhouse Gas Emissions in Danville

The Danville Sustainability Action Plan, adopted concurrently with the General Plan, includes an estimate of existing (2008) greenhouse gas emissions in Danville, as well as the source of these emissions. **Figure 27** indicates the existing sources of greenhouse gases in the Town. Transportation is the primary source, accounting for almost half of the roughly 351,000 metric tons of CO₂ equivalent gas emissions generated in Danville in 2008. Other sources include residential and non-residential energy consumption, solid waste disposal, and water/wastewater transportation.

GREENHOUSE GASES AT A GLANCE

The principal greenhouse gases of concern are:

- *Carbon dioxide (CO₂)*, which is primarily generated by fossil fuel combustion in stationary and mobile sources. The vast majority of CO₂ emissions come from the combustion of fossil fuels such as petroleum, coal and natural gas.
- *Methane (CH₄)*, the primary component of natural gas, which is used for space and water heating, steam production and power generation. Modern landfills, agricultural operations, coal mines, and oil and natural gas operations are the primary sources of methane emissions.
- *Nitrous oxide (N₂O)*, which is produced by both natural and human related sources. Natural sources of nitrous oxide are bacteria in the soil and oceans. The majority of nitrous oxide produced by human activity is a result of agriculture, including nitrogen fertilizers and animal waste, which promote nitrous oxide production from naturally-occurring bacteria. Industrial processes and internal combustion engines also produce nitrous oxide.
- *Hydrofluorocarbons (HFCs)*, which are typically used as foam-blown insulation and as refrigerants for both stationary refrigeration and mobile air conditioning.
- Other compounds have the potential to contribute to the greenhouse effect. These compounds include *ozone*, *Perfluorocarbons (PFCs)*, *Sulfur hexafluoride (SF₆)*, *1,1,1-trichloroethane*, *hydrochlorofluorocarbons*, and *chlorofluorocarbons*.

B. FORECAST

The Town will make continued strides toward becoming more environmentally sustainable in the future, in part through the implementation of policies in the General Plan and the Danville Sustainability Action Plan. Land use and transportation decisions will be carefully coordinated. Capital investments will make walking and bicycling safer and more convenient, thereby reducing vehicle miles traveled. A variety of energy and water conservation measures will reduce natural resource consumption and the greenhouse gases associated with transporting these resources.

As part of the Sustainability Action Plan, the Town prepared projections of future greenhouse gas emissions levels with and without reduction strategies. As noted above, activities in Danville generated about 351,690 metric tons of CO₂ (MTCO₂) equivalent gases in 2008. Continuing

“business as usual” would result in a 6 percent rise in emissions (to 373,630 MTCO₂) by 2020 and a 19 percent rise (to 420,440 MTCO₂) by 2035. As a result of state and federal emission reduction requirements, the Town will be able to meet (and exceed) the 15 percent reduction threshold by 2020, as established by the California Air Resources Board Scoping Plan.

Beyond 2020, computer models indicate the town’s greenhouse gas emission levels may begin rising again. This will make it more challenging to reach the targets set by the State of California in 2006 to reduce emissions 80 percent from 1990 levels by 2050. Local measures may be needed to supplement the state and federal measures that will result in reductions during the next decade.

Please consult the Danville Sustainability Action Plan for more information on greenhouse gas emission forecasts and reduction measures.

FIGURE 27

DANVILLE 2008 GREENHOUSE GAS EMISSIONS SUMMARY

	GHG EMISSIONS MTCO ₂ /Year ¹	PERCENT OF TOTAL
Transportation ²	158,620	45%
Residential Energy ³	119,120	34%
Non-Residential Energy ³	23,810	7%
Solid Waste Disposal ⁴	24,220	7%
Water/Wastewater ⁵	7,380	2%
Other Emissions ⁶	18,440	5%
Total Communitywide GHG Emissions	351,590	100%

Notes:

- (1) Emissions rounded to nearest ten.
- (2) Based on Vehicle Miles Traveled (Fehr and Peers, 2012).
- (3) Natural gas and purchased energy provided by PG&E.
- (4) US EPA WARM Model, based on waste disposal data obtained from CalRecycle.
- (5) LGOP Version 1.1 based on water and wastewater use in Danville.
- (6) Estimate of stationary equipment use for agriculture, lawn/garden, light commercial, and construction.

C. GOALS AND POLICIES

GOAL: SUSTAINABILITY

Goal 31: *Conserve non-renewable resources through solid waste reduction, water conservation, and energy efficiency programs.*

Goal 32: *Encourage building and construction practices that minimize environmental impacts and natural resource consumption.*

POLICIES: SUSTAINABILITY		IMPLEMENTATION MEASURES
31.01	<p>Promote the efficient use of water by encouraging drought-tolerant landscaping, plumbing fixtures and irrigation systems designed for water efficiency, and other building and landscape systems designed to reduce potable water use and water waste.</p> <p><i>The Town has already adopted sustainable landscaping standards intended to reduce water consumption and promote native (“bay-friendly”) plantings.</i></p>	<ul style="list-style-type: none"> • Building Code • Development Review • Water-Conserving Landscaping Ordinance
31.02	<p>Support the use of reclaimed water (“gray water”) for landscape irrigation on medians, in parks, and in other landscaped areas.</p> <p><i>The San Ramon Valley Recycled Water Program began delivering reclaimed water to Danville and San Ramon in 2007. The project has been designed to provide a drought-resistant recycled water supply for irrigation in the San Ramon Valley. In addition, the Town requires dual plumbing systems to enable the use of recycled water for irrigation in designated recycled water areas.</i></p>	<ul style="list-style-type: none"> • Building Code • Intergovernmental Coordination
31.03	<p>Promote composting, recycling, and other programs that reduce the amount of household solid waste requiring disposal in landfills.</p> <p><i>The Town is exploring ways to increase the amount of solid waste that is diverted from landfills, including increased opportunities for “e-waste” recycling, green waste collection, and kitchen waste recycling.</i></p>	<ul style="list-style-type: none"> • Solid Waste Management Program • Public Education and Outreach • Sustainability Action Plan

POLICIES: SUSTAINABILITY		IMPLEMENTATION MEASURES
31.04	<p>Expand participation in recycling programs by the commercial sector, including Danville offices, restaurants, retail stores, and other businesses.</p> <p><i>Legislation that would require more heightened commercial recycling was under consideration at the State level at the time of adoption of the 2030 Plan. If approved, the Town would adopt the ordinances necessary to carry out this mandate. The Town may consider other incentives or requirements to increase the landfill diversion rate among local businesses.</i></p>	<ul style="list-style-type: none"> • Solid Waste Management Program • Public Education and Outreach • Sustainable Business Program • Sustainability Action Plan
31.05	<p>Reduce the amount of construction and demolition (C&D) debris being disposed in landfills through mandatory C&D recycling requirements.</p>	<ul style="list-style-type: none"> • Construction and Demolition Debris Recycling Ordinance
31.06	<p>Require new and rehabilitated multifamily developments to provide on-site shared collection bins for recyclable and compostable waste.</p>	<ul style="list-style-type: none"> • Development Review
31.07	<p>Advocate for increased energy conservation by Danville residents and businesses, including basic conservation practices (such as shutting off lights and using lower wattage bulbs), weatherization of existing homes and businesses, and the use of more energy efficient appliances.</p>	<ul style="list-style-type: none"> • Public Education and Outreach
31.08	<p>Support education and outreach campaigns which inform residents about the value and benefits of energy and water conservation, and which increase awareness of environmental and conservation issues.</p> <p><i>This could also include programs which acknowledge and publicize the energy efficiency efforts of local retail businesses and other local employers.</i></p>	<ul style="list-style-type: none"> • Public Education and Outreach • Sustainability Action Plan
31.09	<p>Ensure that the Town of Danville serves as a conservation role model for residents and businesses in its day-to-day operations. The Town will pursue energy efficiency in its operations, initiate energy retrofitting of its buildings, encourage the use of recycled or reusable goods in its purchasing practices and implement other conservation practices that may be followed by Danville residents.</p>	<ul style="list-style-type: none"> • Standard Operating Procedures • Environmentally Friendly Purchasing • Sustainability Action Plan

POLICIES: SUSTAINABILITY		IMPLEMENTATION MEASURES
31.10	Work with PG&E to replace streetlights and parking lot lights with more energy efficient alternatives as such alternatives become available and as funding allows.	<ul style="list-style-type: none"> Public Works Standards
31.11	Attract and retain businesses that incorporate sustainable practices into their operations and that produce goods or services that contribute to sustainability.	<ul style="list-style-type: none"> Economic Development Programs Sustainable Business Program
31.12	Collaborate with Contra Costa County, special agencies such as the Central Contra Costa Solid Waste Authority, and other Bay Area jurisdictions to address sustainability and conservation issues, recognizing the efficiencies that can be achieved by pooling resources and addressing environmental issues on a larger scale.	<ul style="list-style-type: none"> Intergovernmental Coordination
31.13	Support community gardening, farmers markets, home gardening, and other measures that encourage consumption of locally grown produce and healthy foods.	<ul style="list-style-type: none"> Standard Operating Procedures Zoning Ordinance
32.01	<p>Support the use of green building methods in new construction and rehabilitation projects, including both Town of Danville projects and private projects undertaken by homeowners.</p> <p><i>“Green buildings” are structures which are designed to achieve more efficient use of natural resources than conventional buildings. The extra efficiency is achieved through siting, design, construction, operation, and maintenance methods. Such buildings typically reduce energy and water consumption, incorporate measures to reduce waste and pollution, and promote the health and safety of occupants.</i></p>	<ul style="list-style-type: none"> California Green Code Development Review Sustainability Action Plan

POLICIES: SUSTAINABILITY		IMPLEMENTATION MEASURES
32.02	<p>Consider incentives for projects that incorporate green building methods beyond those required by the building code.</p> <p><i>Such incentives could include reduced permit costs for LEED-certified projects, or projects which achieve a particular green point rating score. In addition, the Town regularly updates the Building Code in response to new State requirements related to conservation and green building methods.</i></p> <p><i>(See also P. 6-38 for a discussion of LEED and green point rating systems).</i></p>	<ul style="list-style-type: none"> • California Green Code • Development Review • Building Code
32.03	<p>Encourage the use of recycled-content construction materials in major rehabilitation projects and in new construction.</p>	<ul style="list-style-type: none"> • California Green Code • Development Review
32.04	<p>Encourage site planning and subdivision design methods which reduce heating and cooling costs.</p> <p><i>This can be achieved through features such as shade trees, the orientation of buildings to maximize solar access, and the use of “cool roofs” (roofs designed to reduce heat transfer to interior spaces), and roof designs which support solar panels.</i></p>	<ul style="list-style-type: none"> • Design Guidelines • Development Review • Title 24
32.05	<p>Protect solar access rights in a manner that is consistent with state law, and encourage the use of solar energy systems in new construction and major remodeling projects.</p> <p><i>Since 1978, local governments in California have been prohibited from adopting ordinances which unreasonably restrict the installation of solar energy systems. State law further protects owners of existing solar collectors from shading caused by trees on adjacent properties, and gives local government the authority to protect solar access through zoning and solar access easements. Danville will explore a variety of approaches to encourage the use of solar energy systems in future construction and major remodeling projects.</i></p>	<ul style="list-style-type: none"> • Development Review • Zoning Ordinance • Title 24

POLICIES: SUSTAINABILITY		IMPLEMENTATION MEASURES
32.06	<p>Encourage the use of permeable pavement for parking lots, driveways, walkways and other paved surfaces as a way to absorb stormwater, recharge the aquifer, and reduce urban runoff.</p> <p><i>The term “low impact development” (LID) is used to describe measures which retain rain water on a development site, rather than allowing it to run off into storm drains or creeks. In addition to permeable pavement, other LID practices include the use of rain barrels or cisterns, vegetated rooftops, rain gardens, and retention ponds.</i></p>	<ul style="list-style-type: none"> Public Works Standards
32.07	<p>Promote tree planting as a way to create shade, reduce surface and ambient temperatures, and reduce the energy required for cooling.</p>	<ul style="list-style-type: none"> Development Review Standard Operating Procedures
32.08	<p>Provide information and technical assistance to commercial and residential property owners regarding green building programs and benefits.</p>	<ul style="list-style-type: none"> Public Education and Outreach
32.09	<p>Identify and remove regulatory or procedural barriers to implementing sustainable development and green building practices, including building codes, design guidelines, and zoning regulations.</p>	<ul style="list-style-type: none"> Standard Operating Procedures

GOAL: GREENHOUSE GAS REDUCTION/ AIR QUALITY

Goal 33: Reduce greenhouse gas (GHG) emissions in the Town of Danville in a manner that is consistent with state law and regional initiatives.

Goal 34: Reduce local air pollution in an effort to limit health hazards, maintain a quality living environment, and achieve regional air quality improvements.

POLICIES: GREENHOUSE GAS REDUCTION/ AIR QUALITY		IMPLEMENTATION MEASURES
33.01	<p>Make land use and transportation decisions which promote walking and bicycling, and help to sustain public transportation.</p> <p><i>The intent of this policy is to reduce vehicle emissions by making it more feasible to walk, bike, or use public transportation. This can be achieved by strategically investing in transportation improvements, and by designing new development to be more pedestrian-friendly.</i></p> <p><i>(See also Chapter 4 of the General Plan for policies to support complete streets; policies to promote public transportation service to/ within Danville; policies to support carpooling, vanpooling, and other trip reduction programs; and policies to improve conditions for bicyclists and pedestrians.)</i></p>	<ul style="list-style-type: none"> • Development Review • Capital Improvement Program • Intergovernmental Coordination • Sustainability Action Plan • Land Use Map • TRAFFIX
33.02	<p>Encourage reductions in the number of residents commuting in and out of Danville by car. This can be achieved in part by providing a better balance between jobs and housing, and providing housing which is responsive to the types of jobs that exist in Danville.</p> <p><i>(See also Policy 1.14 on home occupations and Policy 14.05 on telecommuting and other trip reduction strategies.)</i></p>	<ul style="list-style-type: none"> • Economic Development Programs • Housing Element
33.03	<p>Support programs by local employers which encourage employees to carpool, use public transportation, telecommute, or pursue other alternatives to driving alone to work.</p>	<ul style="list-style-type: none"> • Trip Reduction Strategies • Sustainable Business Program • Sustainability Action Plan

POLICIES: GREENHOUSE GAS REDUCTION/ AIR QUALITY		IMPLEMENTATION MEASURES
33.04	<p>During the development review process, impose appropriate mitigation measures on new development to reduce greenhouse gas emissions.</p> <p><i>In June 2010, the Bay Area Air Quality Management District adopted thresholds for identifying significant air quality and greenhouse gas impacts, along with guidelines for evaluating the impacts of new development on climate change. Mitigation measures can help reduce emission levels by reducing vehicle trips and energy use.</i></p>	<ul style="list-style-type: none"> • Development Review • CEQA • Sustainability Action Plan
33.05	<p>Ensure compliance with state and federal standards for wood-burning fireplaces and stoves in new or remodeled homes. Consider incentives for homeowners to replace or retrofit existing fireplaces and stoves with low emission alternatives.</p>	<ul style="list-style-type: none"> • Building Code • Development Review
33.06	<p>Encourage the use of cleaner burning fuels and low-emission vehicles.</p> <p><i>This could include providing infrastructure for “plug-in” vehicles in new development, adding hydrogen fuel pumps at selected gas stations, and a gradual switch to hybrid, electric, or alternative fuel vehicles for the Town’s vehicle fleet.</i></p>	<ul style="list-style-type: none"> • Sustainability Action Plan
33.07	<p>Work with the San Ramon Valley Unified School District to encourage carpooling, walking, and bicycling to schools.</p>	<ul style="list-style-type: none"> • Street Smarts • TRAFFIX
33.08	<p>Encourage the development of telecommunications infrastructure which facilitates telecommuting and home occupations.</p>	<ul style="list-style-type: none"> • Intergovernmental Coordination • Capital Improvement Program
33.09	<p>Encourage local use of renewable energy sources, such as solar power.</p> <p><i>(See also Policy 32.04 and 32.05 on solar access.)</i></p>	<ul style="list-style-type: none"> • Sustainability Action Plan • Development Review • Building Code

POLICIES: GREENHOUSE GAS REDUCTION/ AIR QUALITY		IMPLEMENTATION MEASURES
33.10	<p>Promote the use of low-emissions equipment and appliances.</p> <p><i>An example would be using electric leaf-blowers rather than gas-powered blowers, or replacing older water pumps with variable speed, more efficient pumps.</i></p>	<ul style="list-style-type: none"> • Sustainability Action Plan • Standard Operating Procedures
33.11	<p>Work with PG&E to publicize the benefits of residential energy efficiency and to maximize the use of their technical assistance and financial incentive programs.</p> <p><i>The Town encourages residents to receive energy audits, conduct home weatherization projects, and implement other measures to reduce residential energy use.</i></p>	<ul style="list-style-type: none"> • Sustainability Action Plan • Public Education and Outreach
33.12	<p>Support public education on emissions reduction, alternative modes of transportation, and the steps that residents and businesses can take to promote sustainability.</p> <p><i>(See also Policy 31.08 on energy conservation education.)</i></p>	<ul style="list-style-type: none"> • Public Education and Outreach • TRAFFIX • Sustainability Action Plan
33.13	<p>Periodically review the Town’s progress toward meeting its greenhouse gas (GHG) reduction targets.</p>	<ul style="list-style-type: none"> • Sustainability Action Plan
34.01	<p>Support regional, state, and federal efforts to reduce air pollution.</p>	<ul style="list-style-type: none"> • Intergovernmental Coordination
34.02	<p>Consider air pollution impacts during the local development review process. Development should be located and regulated to minimize the emission of direct and indirect air contaminants.</p>	<ul style="list-style-type: none"> • Development Review • CEQA • BAAQMD Air Quality Management Measures
34.03	<p>Implement appropriate controls and “best practice” requirements on construction and grading activities to minimize airborne dust and other particulate matter.</p> <p><i>Typical controls would include requirements to cover stockpiled soil, avoid grading on windy days, and cover trucks that are hauling dirt and debris.</i></p>	<ul style="list-style-type: none"> • CEQA • Development Review • BAAQMD Air Quality Management Measures

	<p>POLICIES: GREENHOUSE GAS REDUCTION/ AIR QUALITY</p>	<p>IMPLEMENTATION MEASURES</p>
<p>34.04</p>	<p>Consistent with CEQA and the measures necessary to mitigate General Plan impacts, require site-specific air quality studies for future development under the Plan that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within a designated buffer area along Interstate 680.</p> <p><i>The extent of the buffer area is shown on Figure 24. The General Plan EIR may be consulted for further information on the precise buffer width at a given location. The purpose of the air quality analyses is to determine the potential level of exposure to toxic air contaminants and fine particulate matter for new development, following procedures outlined by the BAAQMD. If a site-specific analysis reveals the potential for significant exposure, additional measures shall be employed to reduce the risk to below accepted thresholds.</i></p>	<ul style="list-style-type: none"> • BAAQMD Air Quality Management Measures • Development Review • CEQA
<p>34.05</p>	<p>Ensure that future non-residential developments are evaluated through the CEQA process and/or the BAAQMD permit process to ensure that they do not result in a significant health risk.</p> <p><i>For the purposes of this policy, a significant health risk is defined as a cancer risk greater than 10 in one million, an acute or chronic hazard with a Hazard Index Rating greater than 1.0, or annual PM_{2.5} exposures greater than 0.3 µg/m³.</i></p>	<ul style="list-style-type: none"> • Sustainability Action Plan • Public Education and Outreach
<p>34.06</p>	<p>Consistent with CEQA and the measures necessary to mitigate General Plan impacts, require indoor air filtration systems to reduce particulate concentrations to acceptable levels for projects where there would be a significant cancer risk exposure as defined by BAAQMD.</p> <p><i>Project sponsors will be required to submit performance specifications and design details to demonstrate that lifetime residential exposures would result in less-than-significant cancer risks (less than 10 in one million chances).</i></p>	<ul style="list-style-type: none"> • BAAQMD Air Quality Management Measures • Development Review • CEQA
<p>34.07</p>	<p>Require new restaurants located in mixed use developments, or adjacent to residential developments to install kitchen exhaust vents with filtration systems, re-route vents away from residential development, and/or to use other accepted methods of odor control, in accordance with local building and fire codes.</p>	<ul style="list-style-type: none"> • BAAQMD Air Quality Management Measures • Development Review • CEQA

(See also Chapter 4 for additional policies on trip reduction, transportation demand management, public transit, and pedestrian and bicycle travel.)

IMPLEMENTATION STRATEGY

The goals and policies in the Resources and Hazards Element will be implemented with a variety of techniques.

The key implementation measures are listed below. General implementation strategies, applicable to more than one of the major topic areas covered by this Chapter, are listed first. These are followed by strategies specifically aimed at Resources, strategies specifically aimed at Hazards and, finally, strategies specifically aimed at Sustainability and Greenhouse Gas Emissions.

For ease of reference, the measures in each section are listed in alphabetical order. Recommended changes to the strategies are described at the end of each section where appropriate.

A. STRATEGIES APPLYING TO MORE THAN ONE SUB-CHAPTER

Building Code

The Town's Building Code requires that new construction be designed and built in a manner which protects public safety. The code addresses protection from many of the hazards described in this Chapter, including fire, flooding, noise, and earthquake-related ground shaking. Through the state's Building Energy Efficiency Standards, it also requires energy conservation. The Building Code is periodically amended to reflect changing state laws promoting energy and water conservation and other environmental concerns.

(See also the "Sustainability" Implementation measures [section D] for a discussion of the California Green Code.)

California Environmental Quality Act (CEQA)

One of the primary purposes of CEQA is to inform the decision-making process in order to improve project design and mitigate potential environmental impacts. During the initial study phase of environmental review, projects are

evaluated for their potential impacts on significant natural habitat areas, archaeological sites, water features, topographic features, mineral resources, and agricultural areas. Projects are also evaluated for their vulnerability to (and impact on) hazards such as earthquakes, wildfire, flooding, and noise. Air quality and greenhouse gas impacts also are considered during this process. Environmental review identifies mitigation measures for significant adverse impacts on these features. The Town has adopted CEQA guidelines that direct staff and property owners in the evaluation of proposed projects and mitigation of potential impacts.

Proposed Revisions or Actions:

The Town should update its guidelines to ensure that they reflect recent revisions to CEQA and the Bay Area Air Quality Management District Guidelines. Specific revisions may be needed to address new state and regional regulations relating to toxic air contaminants and greenhouse gasses.

Development Review

The Town's development review process provides a number of opportunities to ensure that proposed projects adequately protect natural resources, permanently protect open space, address potential hazards, and support the Town's sustainability and greenhouse gas reduction goals. Early in the process it is essential to influence project design in a manner which reflects the presence of resources and hazards on a site. Development review may also result in the imposition of special requirements that reduce exposure to hazards or protect environmental features. Proposed revisions to the process are identified in earlier Chapters of the General Plan.

Grading Ordinance

The Grading Ordinance provides specific criteria and methods for grading and road construction in hillside areas. It also requires covering stockpiled soils to avoid dust and air quality impacts. The Ordinance focuses upon appropriate hillside

grading and construction techniques to avoid mass grading and creation of large flat pad building areas in favor of stepped unit foundations and other such measures. The Ordinance also allows the use of flexible street standards in hillside areas to minimize visual and environmental impacts. It implements several General Plan policies, particularly those relating to public safety, erosion, and environmental quality. Proposed revisions to the Ordinance are identified in Chapter 3.

Intergovernmental Coordination

Many of the policies in this Chapter will require collaborative efforts between the Town of Danville and other jurisdictions. For example, water quality and stormwater management programs are administered at the regional level, under the oversight of special district, county, and regional agencies. Similarly, hazard mitigation, flood control, dam failure, and vegetation management programs can be more efficiently achieved through coordination with local and regional special agencies, and other jurisdictions. Existing collaborative efforts with the San Ramon Valley Fire Protection District, the Contra Costa County Office of Emergency Services, the San Ramon Valley Emergency Preparedness Citizens Corps Council, the East Bay Regional Communication Systems Authority, the Contra Costa County Flood Control and Water Conservation District, Caltrans, and other agencies should continue. Such partnerships have been an essential part of the Town's emergency preparedness programs.

Proposed Revisions or Actions:

Ongoing coordination with other jurisdictions in the Tri-Valley area is recommended to preserve and acquire open space, improve the long-term viability of agriculture in the Tassajara Valley, improve air and water quality, and protect the region's environmental resources. In addition, coordination will be needed to implement the Local Hazard Mitigation Plan, the Municipal Resources Permit (for stormwater), and the transportation initiatives that underpin greenhouse gas reduction strategies.

Land Use Map

The Land Use Map (**Figure 5**) shows about 3,800 acres within Danville, nearly a third of the Town's entire land area, in the General Open Space and Agricultural land use designations. The designations shown on the Land Use Map were determined, in part, by considering the location of environmentally sensitive areas and the potentially hazardous conditions that affect land use. The Land Use Map also guides future growth to areas where it will have a lesser impact on natural resources.

The Land Use Map will also be used to carry out some of the noise and air quality policies in the Plan. To the extent feasible, it separates noise-sensitive uses from major noise sources and encourages a development pattern that reduces auto dependency.

Public Works And Engineering Design Standards

The Town's standards for road construction and infrastructure design ensure adequate emergency vehicle access to new development areas, reduce excessive maintenance costs, help ensure the protection of natural resources such as hillsides and creeks, and minimize hazards such as flooding and landslides within new development areas. Public Works standards can also contribute to sustainability goals. For example, the use of permeable paving and on-site stormwater containment facilities can help improve water quality. Similarly, energy-efficient streetlights can reduce energy costs, and the provision of sidewalks and bike lanes can make walking and bicycling a more viable alternative to driving. Proposed changes to these standards are contained in the Planning and Development Chapter and the Public Facilities Chapter.

Scenic Hillside And Major Ridgeline Development Ordinance

The Scenic Hillside and Major Ridgeline Development Ordinance (strengthened by

amendments twice since its adoption in 1984) implements goals pertaining to resources and hazards. By placing strict limits on the development of hillsides and ridges, the Ordinance discourages development on steep or unstable slopes, promotes soil conservation, maintains plant and animal habitat in hillside areas, and preserves Danville’s scenic hillsides as permanent open space.

Zoning Ordinance

The Zoning Ordinance includes the Scenic Hillside and Major Ridgeline regulations (discussed in the prior section), tree preservation regulations, flood damage prevention regulations, agricultural land conservation regulations, and the Zoning Map. The Zoning Map reflects environmental hazards and constraints in the Town, such as steep slopes and flood plains. More hazardous areas are zoned for less intense uses, agriculture, or open space. Areas that are close to transit and services are zoned for more intense uses, such as multifamily housing and mixed use development. Zoning also encourages sustainability and



Diablo Road Bridge Creek bank repair

green business practices by permitting home occupations, allowing mixed uses, and permitting agriculture and other activities that may reduce transportation-related emissions. Recommended changes to the Zoning Ordinance are listed in the Planning and Development Chapter.

B. NATURAL RESOURCES

Creek Protection Program

Additional measures to conserve the town’s creeks should be pursued. Such measures could include additional coordination with the County regarding the design of flood control projects, requirements for easement dedication or setbacks along creeks, design guidelines for creekfront properties, neighborhood creek “clean-ups,” development of creek trails where feasible, and applications for creek restoration grants.

Hillside Development Guidelines

As a part of the development review process, proposed hillside development is subject to Hillside Development Guidelines (and the Scenic Hillside and Major Ridgeline Development Ordinance, discussed in the previous section). The Guidelines serve to protect native vegetation and discourage grading, thereby preserving natural habitat and scenic qualities. The guidelines are periodically reviewed to ensure that they provide appropriate direction to future grading and development projects.

Park and Open Space Dedication and Acquisition

The Town requires dedication of open space within major new development sites. In addition, the Town has worked collaboratively with the East Bay Regional Park District to expand Las Trampas Ridge Regional Wilderness Park and establish permanent open space reserves on Short Ridge and in the Sherburne Hills. These efforts should continue in the future.

Planned Unit Development Zoning

The Planned Unit Development (PUD) zoning approach permits conservation of environmentally sensitive areas through density clustering. This approach has been used throughout Danville to preserve hillside and ridgeline areas as permanent open space.

Regional Water Quality Control Board – S.F. Bay Municipal Regional Permit (MRP)

The MRP is a multi-faceted watershed management program that is implemented at the regional, county, and local levels. The purpose of the program is to meet federal clean water requirements by regulating stormwater runoff and storm drainage systems. Its components include monitoring, illicit discharge elimination, development and construction controls, public education, municipal operations, industrial and commercial site controls, trash load reduction, and control of a variety of specific contaminants. Local implementation activities include enforcement of Danville’s Stormwater Management and Discharge Control Ordinance (discussed below). Street sweeping and storm drain cleaning are particularly important program elements.

Stormwater Management and Discharge Control Ordinance

Chapter 20 of the Town of Danville’s Municipal Code is its Stormwater Management and Discharge Control Ordinance. The Ordinance is intended to minimize non-stormwater discharges to streams, minimize increases in nonpoint source pollution caused by urban runoff, control the discharge of stormwater from spills and dumping, and reduce runoff rates and volumes to reduce public safety hazards. All development applications that meet specified thresholds (e.g., for certain types of projects resulting in more than 10,000 square feet of new or replacement impervious surface area) are required to have a stormwater control plan, including an operations and maintenance plan.

The Ordinance requires stormwater facilities to be designed in accordance with the C.3 Guidebook, thereby minimizing maintenance requirements and reducing the risk of failure. Best management practices and standards also are included, with an emphasis on reducing litter, keeping paved surfaces clean, and monitoring construction activities. The Ordinance also includes provisions for inspection and enforcement.

Street Tree Planting Program

Street tree planting is one of several programs aimed at enhancing environmental quality and neighborhood aesthetics in Danville. As a part of its maintenance activities, the Town installs and maintains landscaping on public properties. The Town should continue to evaluate and select the tree species appropriate for various planting situations and should continue to implement the tree planting recommendations of the Downtown Beautification Guidelines. Within development areas, the Town should continue to provide guidance to developers regarding the selection of appropriate street trees.

Tree Preservation Ordinance

The intent of the Tree Preservation Ordinance is to promote the preservation of mature native species trees within the Town. Additional information on the Ordinance is contained in the Planning and Development Chapter.

C. HAZARDS

Cert Training

The Community Emergency Response Team (CERT) Program is a national program that educates people about disaster preparedness. Participants are trained in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others

in their neighborhood or workplace following an earthquake, fire, or other natural disaster. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their communities.

Code Enforcement

Code enforcement is important to reducing the risk of catastrophic wildfires. The San Ramon Valley Fire Protection District (SRVFPD) has adopted standards for Exterior Hazard Abatement. Residents are annually informed of these standards, which are intended to address overgrowth of grasses, weeds, shrubbery or trees. SRVFPD has a field inspection program and may assess fees or place liens on non-compliant properties.

Emergency Operations Plan

The Town has adopted an Emergency Operations Plan that specifies roles and responsibilities of Town officials in the event of a disaster. The Plan includes provisions for facilitating traffic control and direction when emergency or planned closure of the I-680 freeway or other major arterials within the community occur. The Emergency Operations Plan should be periodically reviewed and updated so that it remains current.

Fire Safe Roofing Ordinance

The Fire Safe Roofing Ordinance stipulates under what conditions fire safe roofing materials must be used on new roofs and re-roofing projects.

Flood Plain Management

Flood plain management seeks to reduce the possibility of damage from flooding along Danville's creeks, and to establish regulations for development within flood prone areas which minimize the potential for future damage. The Town coordinates these efforts with the Federal Emergency Management Agency and the Contra Costa County Flood Control and Water

Conservation District. Hydraulic studies may be required within new development areas to ensure that downstream flood hazards are mitigated by proposed development.

Gas Shut-Off Devices Ordinance

In 2007, the Town adopted the Gas Shut-Off Devices Ordinance requiring qualifying residential and commercial projects to utilize either a seismic gas shut-off device or an excess flow gas shut-off device to mitigate potential gas leaks following an earthquake. The Town supplements the mandatory portion of this program with dissemination of information to property owners that may be considering voluntarily installing a shut-off device.

Geologic Hazard Abatement Districts

In 1980, state planning law was amended to permit the creation of Geologic Hazard Abatement Districts (GHAD) to finance construction and maintenance of facilities to control landslides and other geologic hazards. As a separate entity under state law, these districts have the ability to assume liability for their own areas, thereby functioning as an insurance policy for public or privately owned lands. The Town has adopted an ordinance enabling the use of these districts. One such district, serving the Magee Ranch development, has been established to date.

Local Hazard Mitigation Plan (LHMP)

In 2008-2011, Danville prepared an LHMP in collaboration with Contra Costa County and more than 30 other jurisdictions. The purpose of the LHMP is to reduce or eliminate long-term risks to human life, property, and the environment from natural hazards, particularly earthquakes, flooding, and wildfires. The Plan also makes Danville eligible for FEMA disaster relief funds in the event of a natural disaster. The LHMP includes hazard maps and data, and specific strategies to mitigate or respond to future natural disasters in Danville. Public education and outreach is an important component of the Plan.

Noise Ordinance

The Town adopted a Noise Ordinance in 1987 to discourage excessive levels of noise and associated nuisances.

Proposed Revisions or Actions:

The existing Noise Ordinance should be reviewed and updated to specify the acceptable noise levels for various equipment, activities, and land uses and to clarify enforcement procedures.

Figure 26 establishes standards for determining the compatibility of various land uses with different levels of ambient noise. **Figure 26**, in conjunction with the policies under Goal 27, should be considered when developing the updated Noise Ordinance.

Very High Fire Hazard Severity Zones

In 2008, the Town declared certain areas in Danville as Very High Fire Hazard Severity Zones. Buildings on properties within the boundaries of these areas must comply with specified building requirements designed to increase their resistance to flames or burning embers from a vegetation fire.

D. SUSTAINABILITY

Danville has been a leader in promoting green and sustainable practices since its incorporation. The Town has a long track record of promoting energy and water conservation, reducing waste, encouraging recycling and composting, and supporting greener development practices. The following implementation measures are among the “toolbox” of strategies that will be used to continue this tradition in the future.

Bay Area Air Quality Management District (BAAQMD) Air Quality Management Measures

The Town of Danville has taken a number of steps to limit the potential adverse impacts of development on air quality and greenhouse gas emissions. For example, the Town supports the Bay Area Air Quality Management District’s

(BAAQMD) winter ozone program and ensures compliance with state and federal standards for wood-burning fireplaces in new homes.

Most air quality strategies are referred to as transportation control measures (TCMs) and are aimed at reducing motor vehicle emissions. The Town is implementing local and countywide plans to create new bicycle lanes and promote bicycle use. It has developed a park and ride lot adjacent to the I-680 freeway to promote carpooling, vanpooling, shuttles, and public transit use. It is undertaking capital improvements in Downtown Danville to support pedestrian travel, and continues to implement its Neighborhood Traffic Management Program to control traffic on residential streets. Use of public transit and improved provision of transit service is also supported, as are innovative programs such as TRAFFIX (discussed later in this section). The Town has also supported voluntary employer-based ridesharing and trip reduction programs and has encouraged employers and developers to provide amenities that reduce the necessity of single passenger auto travel.

Proposed Revisions or Actions:

State and federal air quality plans for the San Francisco Bay Area identify numerous strategies for reducing motor vehicle emissions. Danville will continue to implement those strategies that are applicable, given local land use and transportation conditions. The Town will continue to improve bicycle access and facilities, promote pedestrian travel and traffic calming, and support employer-based vanpool and carpool programs. The General Plan allows mixed use development (including housing) in parts of Downtown Danville as a means of encouraging walking, making public transit more viable, and reducing auto dependency.

In conformance with BAAQMD guidelines, the Town will also designate an air quality buffer zone on either side of the travel lanes of I-680. Additional air quality analysis and pollution control measures (such as filtration systems) may be required within this buffer zone to minimize exposure to toxic air contaminants, carbon monoxide, particulates, and other health risks.

California Green Code

The California Green Building Standards Code (CalGreen) is the portion of the California Building Standards Code that addresses green construction. It includes mandatory and voluntary measures to reduce water and energy conservation, improve environmental quality, and promote material conservation and resource efficiency. Local governments may adopt more stringent rules than those contained in CalGreen, or may choose to take some of CalGreen's voluntary provisions and make them mandatory.

Capital Improvement Program

The Town of Danville can work toward its sustainability and greenhouse gas reduction objectives by strategically investing in particular types of capital improvements. For example, sidewalks and bicycle lanes can facilitate pedestrian travel, while retrofits to older public buildings can reduce energy costs or enable alternative energy

sources to be put in place. Capital improvements can also facilitate growth in those areas where it will have the least impact on the environment.

Construction and Demolition (C&D) Debris Recycling Ordinance

The Town of Danville's C&D recycling ordinance requires that the following types of projects divert 50 percent of their job debris from the landfill:

- (a) total construction costs that are \$50,000 or more.
- (b) construction or renovation of 1,000 square feet or more, including roofing projects.
- (c) demolition-only projects (greater than or equal to 300 square feet).

The ordinance requires submittal of a Waste Management Plan as part of the application, and compliance documentation once the project is completed. All C&D waste must be taken to a certified C&D recovery facility.



Veterans Memorial Building and Senior Center

Design Guidelines

The Town has adopted design guidelines for various types of development (e.g., residential, heritage resources, hillside, etc.) and specific geographic areas (such as Downtown). Collectively, these guidelines promote high-quality architecture, respect for the natural landscape and vegetation, and the compatibility of new projects with existing structures and surrounding properties.

Proposed Revisions or Actions:

The Town’s design guidelines should be reviewed to ensure that they support sustainable development and green building principles. This could include allowances for “cool” roofs, permeable pavement, shade trees along sidewalks, solar access for new homes, and similar provisions.

Economic Development Programs

The Town supports the efforts of the Bay Area Green Business Program, the Danville Area Chamber of Commerce, the Discover Danville Association, the Tri-Valley Convention and Visitors Bureau, and others to create “green” jobs and encourage sustainable business practices in the Danville area.

Environmentally Friendly Purchasing

As part of the climate action planning process, the Town of Danville has adopted an Environmental Purchasing Policy. The policy ensures that the Town will consider using recycled materials and energy-efficient equipment when feasible. This could include the purchase of energy-star appliances in future public facilities, or alternative fuel vehicles as the Town’s vehicle fleet is replaced. The policy also indicates a preference for service providers and vendors that follow “climate friendly practices” such as the use of non-toxic cleansers or pesticide-free landscaping.

Housing Element

The Housing Element supports sustainability goals by promoting a diverse mix of housing types in Danville, including affordable units for lower

income households. Many of the jobs that exist in Danville are retail and service jobs that do not provide the income needed to afford housing in the community. Providing a range of housing choices can help workers live closer to their jobs, thereby reducing commuting and the emissions associated with driving.

Public Education And Outreach

Education and outreach is a critical part of many of the sustainability measures in the General Plan, from energy conservation to recycling. The Town has created a “Living Green” link on its website and provides information to residents about ways to conserve energy, reduce water use, minimize landfilled waste, and consider alternatives to driving. The Town also works with PG&E to provide information about energy conservation and efficiency programs and incentives. It works with the Central Contra Costa Solid Waste Authority to improve awareness of local recycling and composting services, and to increase the Town’s solid waste diversion rate. The Town also provides information to residents and contractors about green building.

Partnerships with the San Ramon Valley Unified School District are a particularly important part of the education and outreach strategies. Many of Danville’s schools have “green” task forces and committees, promoting awareness of climate change issues among students while promoting conservation practices on the campuses. Volunteer organizations such as “Sustainable Danville Area” also play an important role in educating and informing residents of sustainability and green business practices.

Solid Waste Management Program

In compliance with California Assembly Bill 939 (the “Integrated Waste Management Act”), the Town has taken a number of specific steps to reduce the amount of solid waste requiring landfill disposal. These steps include curbside recycling, support for residential composting, and a priority on the use of recycled materials. Such measures

should continue in the future. The Town partners with the Contra Costa Solid Waste Authority to increase opportunities for e-waste recycling, hazardous waste recycling, food waste recycling, and other programs to reduce landfill waste.

Proposed Revision or Actions:

As part of its planning process, the Town identified possible improvements to its solid waste management program. These include enhanced recycling at multifamily projects, additional recycling efforts by local businesses, and adoption of a “deconstruction” program to salvage materials from demolition and remodeling projects. The Town will also consider the use of rubberized asphalt concrete or recycled pavement for future road improvement projects.

Standard Operating Procedures

In 2008, the Town committed to a range of operating procedures intended to lower public sector greenhouse gas emissions and reduce resource consumption. Typical measures include periodic energy audits of Town facilities (and retrofitting of older facilities to reduce energy waste), energy efficiency protocols for building custodial and cleaning services, energy efficiency policies for employees, use of LED traffic lights, retrofitting of plumbing fixtures in Town facilities with “low-flow” devices, and a requirement that all new Town buildings meet LEED Silver standards or better. The procedures also include consideration of photo-voltaic systems on Town buildings, and promoting community gardens and sustainable agriculture. Several of the implementation measures listed elsewhere in this Chapter address these initiatives.

Proposed Revisions or Actions:

The Town should continue implementing energy saving steps for its facilities and operations, including energy audits of Town facilities, setting goals for reducing Town energy costs and water bills, and establishing a fuel conservation program for the Town’s vehicle fleet.

Sustainability Action Plan (Proposed Action)

The Sustainability Action Plan (SAP) identifies local strategies for meeting greenhouse gas (GHG) reduction targets. A growing number of local governments are adopting SAPs to reduce emissions associated with specific sources of GHG, such as energy use, transportation, buildings, municipal operations, and solid waste disposal. The SAP provides a way to quantify the benefits of different strategies, and monitor progress as the strategies are carried out. The SAP should be consulted for additional details on the measures to be implemented and their relative benefits.

Sustainable Business Program

The Town’s Sustainable Business Program recognizes local businesses working to adopt sustainable practices to strengthen the economy, the community, and the environment. To be recognized as a Town of Danville “green” business, a company must adopt at least 25 recommended practices from the Danville Area Sustainable Business checklist relating to energy and water conservation, waste reduction, and pollution control. As part of the Bay Area Green Business Program, the Town itself also has taken the “Green Business Pledge,” which is a commitment to conserve energy, materials, and resources. In this regard, the Town strives to be a model for the business community and other companies doing business in Danville.

Title 24

California Code of Regulations Title 24 governs the design and construction of all buildings and associated facilities and equipment in California. While “Title 24” is commonly associated with energy conservation standards and accessibility, it is actually much broader and applies to all aspects of building construction. Part 6 of Title 24 include the State’s standards for energy, including requirements for calculations to demonstrate energy efficiency. The standards are periodically

updated in response to changes in construction technology and best practices.

TRAFFIX

TRAFFIX is a congestion relief program funded by Measure J (the half-cent sales tax) intended to reduce traffic caused by parents driving their children to and from school. The program is administered through a joint powers agreement between Danville and other participating jurisdictions. Service began in 2009 with a small fleet of new clean-fuel buses with state-of-the-art safety features. As a ridership incentive, the program offers school bus service at less than half the cost of traditional school bus programs.

Trip Reduction Strategies

The Town has implemented a number of programs to reduce single-passenger vehicle use and to encourage residents to carpool, vanpool, use transit, bicycle, or walk. These programs are important

to reduce the number of vehicle miles traveled (VMT). Reducing VMT not only provides air quality benefits, it also helps alleviate congestion. Trip reduction strategies are further addressed in Chapter 4 of the General Plan.

Water Conserving Landscape Ordinance

The Town adopted a Water Conserving Landscape Ordinance in 1991 to reduce water waste and promote drought-tolerant and native landscaping. The ordinance was replaced by the State's "model" ordinance in 2010 as a result of the Water Conservation in Landscaping Act of 2006 (AB 1881).

Proposed Revisions or Actions:

In 2012, EBMUD adopted a new Water Conservation Ordinance to comply with the State of California's Model Ordinance.^v The Town will continue to work with EBMUD to adopt regulations that reflect local water conservation policies and best practices.