Annex A City of Auburn

A.1 Introduction

This Annex details the hazard mitigation planning elements specific to the City of Auburn, a previously participating jurisdiction of the 2016 Placer County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the City. This Annex provides additional information specific to Auburn, with a focus on providing additional details on the risk assessment and mitigation strategy for this community.

A.2 Planning Process

As described above, Auburn followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Placer County Hazard Mitigation Planning Committee (HMPC), the City formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table A-1. Additional details on Plan participation and City representatives are included in Appendix A.

Table A-1 City of Auburn – Planning Team

Name	Position/Title	How Participated
Dave Spencer	Fire Chief	Attended Meetings, Reviewed Annex, Provided Mitigation Actions
Mark D'Ambrogi	Fire Marshal, PHF	Reviewed Annex, Provided Past Occurrences
John Rogers	Battalion Chief	Attended Meetings, Reviewed Annex
Shelby Davis	Fire Engineer	Reviewed Annex, Filled Out Capability Tables

Coordination with other community planning efforts is paramount to the successful implementation of this LHMP Update. This section provides information on how the City integrated the previously approved 2016 Plan into existing planning mechanisms and programs. Specifically, the City incorporated into or implemented the 2016 LHMP through other plans and programs shown in Table A-2.

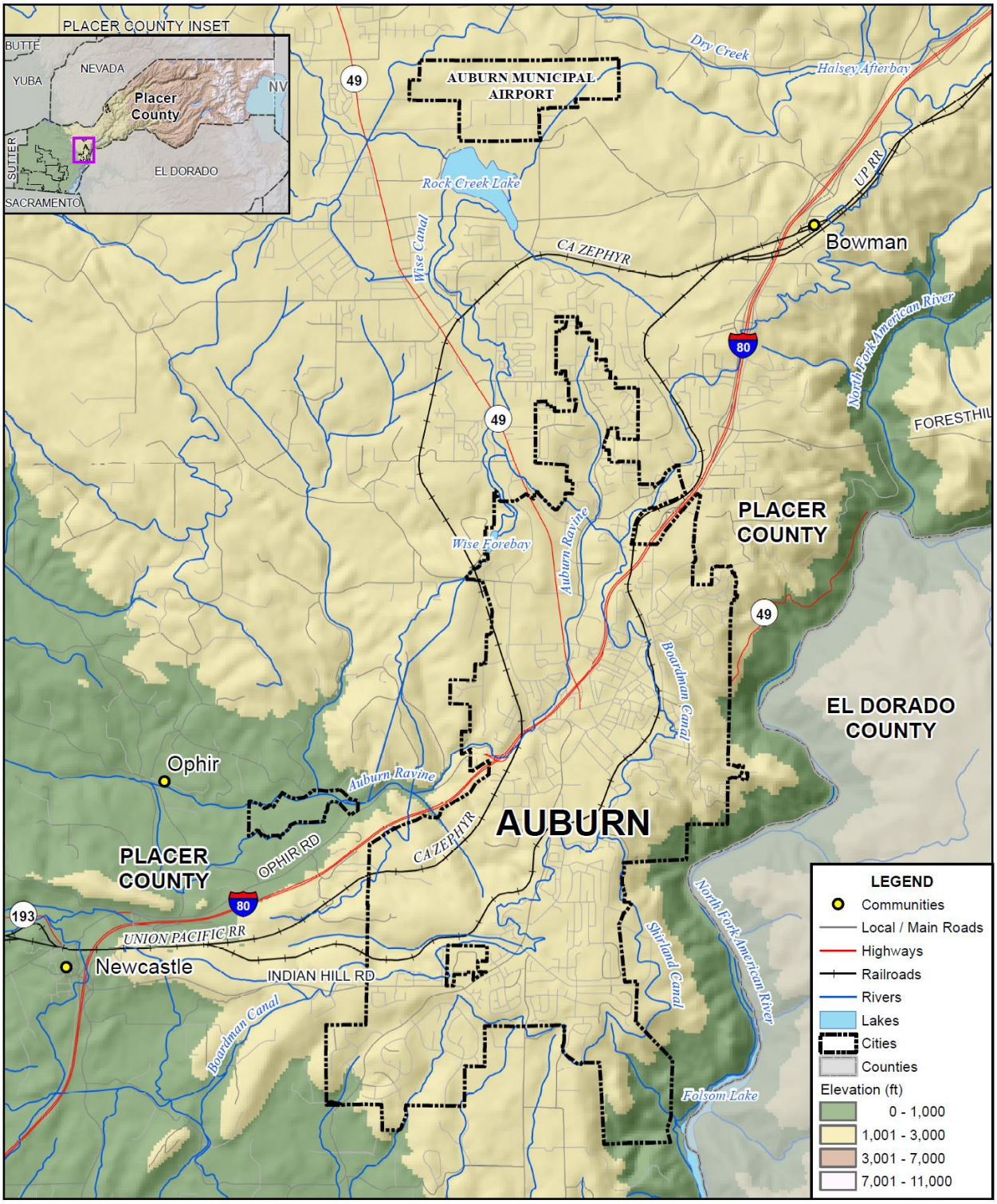
Table A-2 2016 LHMP Incorporation

Planning Mechanism 2016 LHMP Was Incorporated/Implemented In.	Details: How was it incorporated?
2021 City of Auburn Safety Element	Policy 1.4.A.

A.3 Community Profile

The community profile for the City of Auburn is detailed in the following sections. Figure A-1 displays a City map and the location of Auburn within Placer County.

Figure A-1 City of Auburn



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COUNTY OF Placer

Data Source: Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

A.3.1. Geography and Climate

The City of Auburn is located on the western slope of the Sierra Nevada Range at elevations between 1,000 and 1,400 feet above mean sea level (msl). Auburn is the county seat of Placer County and is also located at the crossroads of I-80 and Highway 49. The City is about 7.5 square miles in area and rests near the confluence of the North and Middle Forks of the American River. Mountainous wilderness, canyons, and the western slope of the Sierra Nevada Range lie adjacent eastward; while gentle rolling foothills well-suited for agriculture lie to the west. The crest of the Sierra Nevada lies approximately 45 miles eastward and the Central Valley lies approximately 10 miles to the west.

Auburn consists of two distinct areas: the incorporated city and the greater Auburn area. Auburn's average temperatures ranges from the high 80°F to mid-90°F during the summer to the mid 30°F to high 40°F during the winter. Auburn receives an average of 34.47 inches of rain and 1.2 inches of snow annually.

A.3.2. History

Auburn is well known for its California gold rush history. In 1849, a mining camp became officially known as Auburn and by 1850, Auburn's population had reached 1,500 people. A Frenchman named Claude Chana first discovered gold in the Auburn Ravine in 1848. By 1849 the North Fork Dry Diggings had become a well-established mining camp. Later in the year, the camp was officially named Auburn. Because Auburn was a short distance from Sacramento, centrally located in the gold country, and located just below the snow line, it became known as the "jumping off" spot for the miners. By 1865, Auburn had developed into a permanent town, with the Central Pacific Railroad connecting people to the area. Auburn was first incorporated in 1860 and again in 1888. By 1900 the population of Auburn was just over 2,000.

A.3.3. Economy

The City's economic base consists of retail sales and services; recreational and healthcare services; and light manufacturing. Auburn owns and operates the Auburn Municipal Airport. The City encourages industrial growth through its Airport Industrial Park and light industry in other parts of the City.

US Census estimates show economic characteristics for the City of Auburn. These are shown in Table A-3 and Table A-4. Mean household income in the City was $86,222. Median household income in the City was $66,314.

Table A-3 City of Auburn – Civilian Employed Population 16 years and Over

Industry	Estimated Employment	Percent
Agriculture, forestry, fishing and hunting, and mining	10	0.2%
Construction	514	8.2%
Manufacturing	339	5.4%
Wholesale trade	66	1.0%
Retail trade	589	9.4%

Industry	Estimated Employment	Percent
Transportation and warehousing, and utilities	304	4.8%
Information	192	3.1%
Finance and insurance, and real estate and rental and leasing	365	5.8%
Professional, scientific, and management, and administrative and waste management services	729	11.6%
Educational services, and health care and social assistance	1,457	23.2%
Arts, entertainment, and recreation, and accommodation and food services	831	13.2%
Other services, except public administration	423	6.7%
Public administration	467	7.4%

Source: US Census Bureau American Community Survey 2013-2017 Estimates

Table A-4 City of Auburn – Income and Benefits

Income Bracket	Percent
<$10,000	5..5%
$10,000 – $14,999	5.3%
$15,000 - $24,9999	12.4%
$25,000 – $34,999	9.1%
$35,000 – $49,999	8.2%
$50,000 – $74,999	16.1%
$75,000 – $99,999	11.5%
$100,000 – $149,999	16.1%
$150,000 – $199,999	8.9%
$200,000 or more	7.2%

Source: US Census Bureau American Community Survey 2013-2017 Estimates

The largest employers within the City of Auburn include the County of Placer, Placer Union High School District, Pacific Gas & Electric, Auburn Union Elementary School District, and Pride Industries.

From its origins as a mining camp, Auburn has emerged as a community of strong historic character, cultural enrichment, economic diversity, and a destination point for outstanding outdoor recreation. Auburn's historic culture is being sustained by way of its museums and antique stores and the preservation and renovation of its residences and commercial buildings. Four commercial districts provide a wide variety of shopping and dining experiences.

The nearby Auburn State Recreation Area (ASRA) and the American River Canyon support a diverse range of recreational activities from whitewater rafting and kayaking to fishing and hiking. Auburn is also home to many challenging sporting endurance events, including: Western States 100 mile Endurance Run/Ultra Marathon; the Tevis Cup 100 mile equestrian ride; and the Rio Del Lago 100 mile endurance run.

A.3.4. Population

The California Department of Finance estimated the January 1, 2020 total population for the City of Auburn was 14,594.

A.4 Hazard Identification

Auburn identified the hazards that affect the City and summarized their location, extent, likelihood of future occurrence, potential magnitude, and significance specific to Auburn (see Table A-5).

Table A-5 City of Auburn—Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/ Severity	Significance	Climate Change Influence
Agricultural Hazards	Limited	Unlikely	Negligible	Low	Medium
Avalanche	Limited	Unlikely	Negligible	Low	Medium
Climate Change	Extensive	Likely	Limited	Medium	–
Dam Failure	Limited	Unlikely	Negligible	Low	Medium
Drought & Water Shortage	Limited	Occasional	Limited	Medium	High
Earthquake	Extensive	Occasional	Catastrophic	Medium*	Low
Floods: 1%/0.2% annual chance	Limited	Unlikely	Negligible	Low	Medium
Floods: Localized Stormwater	Limited	Likely	Limited	Medium	Medium
Landslides, Mudslides, and Debris Flows	Limited	Occasional	Limited	Low	Medium
Levee Failure	Significant	Unlikely	Limited	Low	Medium
Pandemic	Significant	Unlikely	Limited	Medium*	Medium
Seiche	Limited	Unlikely	Limited	Low	Medium
Severe Weather: Extreme Heat	Extensive	Likely	Critical	Medium	High
Severe Weather: Freeze and Snow	Extensive	Likely	Critical	Medium	Medium
Severe Weather: Heavy Rains and Storms	Extensive	Likely	Critical	Medium/ High*	Medium
Severe Weather: High Winds and Tornadoes	Extensive	Likely	Critical	Low	Low
Tree Mortality	Limited	Likely	Limited	Medium	High
Wildfire	Extensive	Likely	Catastrophic	High	High

Geographic Extent
Limited: Less than 10% of planning area
Significant: 10-50% of planning area
Extensive: 50-100% of planning area

Likelihood of Future Occurrences
Highly Likely: Near 100% chance of occurrence in next year, or happens every year.
Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.
Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.
Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

Magnitude/Severity
Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths.
Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability.
Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability.
Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid.

Significance
Low: minimal potential impact
Medium: moderate potential impact
High: widespread potential impact

Climate Change Influence
Low: minimal potential impact
Medium: moderate potential impact
High: widespread potential impact

*Though initially considered priorities for the City, the following are considered low priority hazards for mitigation action purposes:

A.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile Auburn's hazards and assess the City's vulnerability separate from that of the Placer County Planning Area as a whole, which has already been assessed in Section 4.3 Hazard Profiles and Vulnerability Assessment in the Base Plan. The hazard profiles in the Base Plan discuss overall impacts to the Placer County Planning Area and describes the hazard problem description, hazard location and extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the City is included in this Annex. This vulnerability assessment analyzes the property, population, critical facilities, and other assets at risk to hazards ranked of medium or high significance specific to the City (as identified in the Significance column of Table A-5) and also includes a vulnerability assessment to the three primary hazards to the State of California: earthquake, flood, and wildfire. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the Base Plan.

A.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section A.5.3, includes a hazard profile/problem description as to how each medium or high significant hazard affects the City and includes information on past hazard occurrences and the likelihood of future hazard occurrence. The intent of this section is to provide jurisdictional specific information on hazards and further describes how the hazards and risks differ across the Placer County Planning Area.

A.5.2. Vulnerability Assessment and Assets at Risk

This section identifies Auburn's total assets at risk, including values at risk, populations at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the community. This data is not hazard specific, but is representative of total assets at risk within the community.

Values at Risk

The following data from the Placer County Assessor's Office is based on the 2020 Assessor's data. The methodology used to derive property values is the same as in Section 4.3.1 of the Base Plan. This data should only be used as a guideline to overall values in the County, as the information has some limitations. The most significant limitations are created by Proposition 13 and the Williamson Act as detailed in the Base Plan. With respect to Proposition 13, instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is most likely low and does not reflect current market value of properties within the County. It is also important to note, in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. However, depending on the type of hazard and impact of any given hazard event, land values may be adversely affected; thus, land values are included as appropriate. Table A-6 shows the 2020 Assessor's values and content replacement values (e.g., the values at risk) broken down by property type for the City.

Table A-6 City of Auburn – Total Values at Risk by Property Use

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Agricultural	4	3	$67,279	$44,949	$44,949	$157,177
Commercial	480	344	$81,553,506	$197,788,839	$197,788,839	$477,131,184
Industrial	47	26	$5,706,494	$11,762,352	$17,643,528	$35,112,374
Institutional	86	25	$6,491,701	$43,335,739	$43,335,739	$93,163,179
Miscellaneous	870	9	$16,739,467	$2,183,737	$2,183,737	$21,106,941
Natural/ Open Space	134	10	$365,302	$774,045	$774,045	$1,913,392
Residential	4,869	4,763	$537,573,384	$1,293,104,721	$646,552,334	$2,477,230,439
Auburn Total	**6,490**	**5,180**	**$648,497,133**	**$1,548,994,382**	**$908,323,171**	**$3,105,814,686**

Source: Placer County 2020 Parcel/Assessor's Data

Critical Facilities and Infrastructure

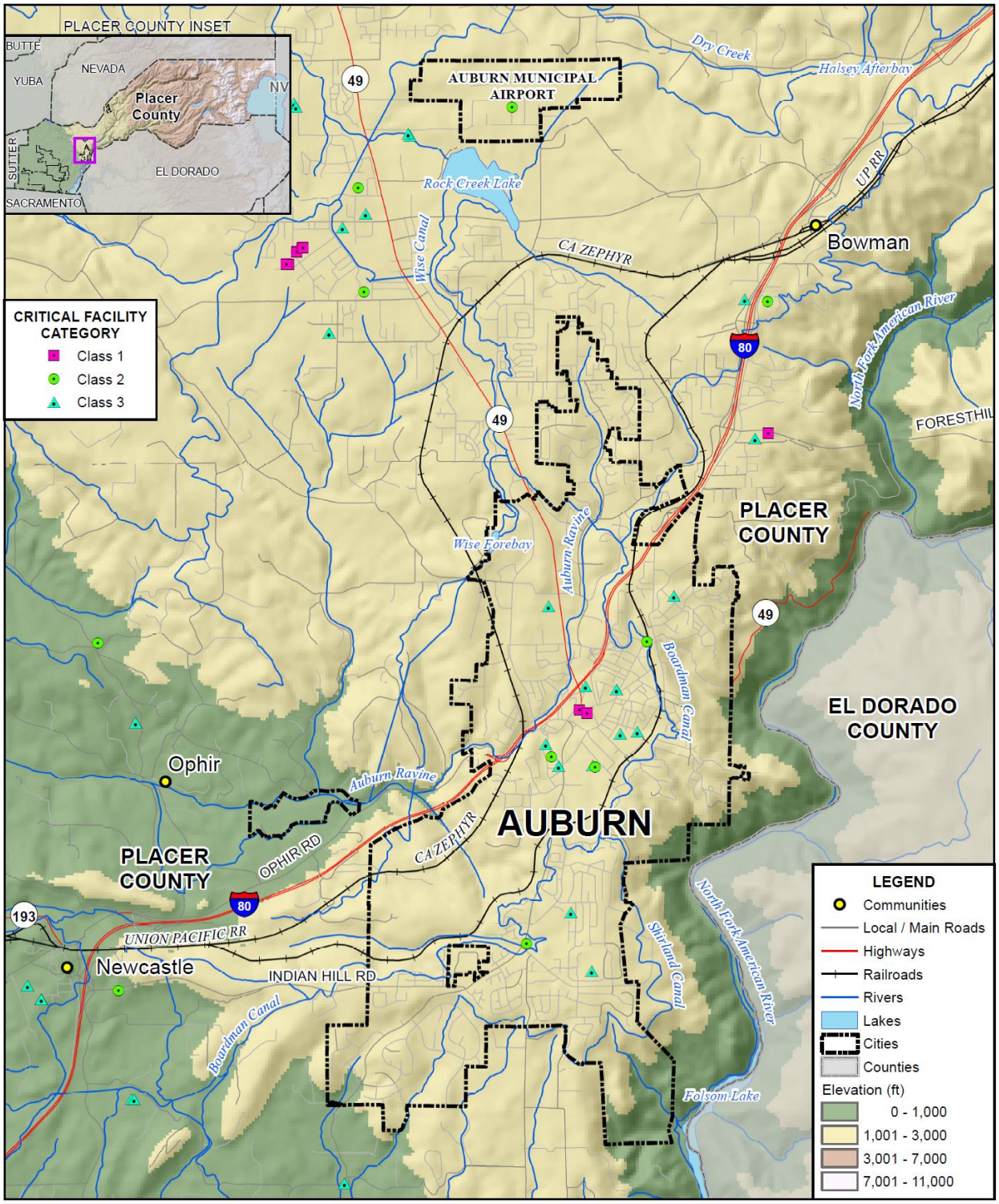
Critical facilities and infrastructure are those buildings and infrastructure that are crucial to a community. Should these be damaged, it makes it more difficult for the community to respond to and recover from a disaster. For purposes of this plan, a critical facility is defined as:

> *Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.*

This definition was refined by separating out three classes of critical facilities as further described in Section 4.3.1 of the base plan.

An inventory of critical facilities in the City of Auburn from Placer County GIS is shown on Figure A-2 and detailed in Table A-7. Details of critical facility definition, type, name, address, and jurisdiction by hazard zone are listed in Appendix F.

Figure A-2 City of Auburn – Critical Facilities



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COUNTY OF Placer

Data Source: Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table A-7 City of Auburn – Critical Facilities

Critical Facility Class	Critical Facility Type	Facility Count
Class 1	Dispatch Center	1
	Emergency Operation Center	1
Class 2	Airport	1
	Fire Station	3
	National/Coast Guard	1
	Police Station	1
Class 3	Fairground	1
	Hall	5
	School	5
Auburn Total		**19**

Source: Placer County GIS

Natural Resources

Natural resources are unique to each area and are difficult to replace. Should a natural disaster occur, these species and locations are at risk. The City of Auburn has a variety of natural resources of value to the community:

- Sensitive plant communities: Oak Woodland, Riparian, and Stream habitat.
- No vernal pools are known to exist within the City limits.
- Several sensitive status species with the potential to occur: California red-legged frog, Foothill yellow-legged frog, Cooper's Hawk, sharp-skinned hawk, golden eagle, bald eagle, northern harrier, Black-Shouldered Kite, prairie falcon, long-eared owl, Pacific fisher, and valley elderberry longhorn beetle.

Historic and Cultural Resources

Historic and cultural resources are difficult to replace. Should a natural disaster occur, these properties and locations can be at risk.

The City of Auburn has a stock of historically significant homes, public buildings, and landmarks. To inventory these resources, information from a number of sources was reviewed. The California Department of Parks and Recreation Office of Historic Preservation (OHP) was the primary source of information. OHP administers the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, and the California Points of Historical Interest programs. Each program has different eligibility criteria and procedural requirements. These requirements are detailed in Section 4.3.1 of the Base Plan. Table A-8 lists the historical buildings in the City.

Table A-8 City of Auburn – Historical Resources

Resource Name (Plaque Number)	National Register	State Landmark	Point of Interest	Date Listed	City
Allen & Sandhorfer Blacksmith, Auburn Iron Works (P619)			X	8/16/1983	Auburn

Resource Name (Plaque Number)	National Register	State Landmark	Point of Interest	Date Listed	City
Auburn Grammar School, Auburn Civic Center Project (P693)			X	3/3/1988	Auburn
Auburn IOOF Hall (P803)			X	8/23/1994	Auburn
Auburn Public Library, Old Auburn Library (P838)			X	9/11/2000	Auburn
Buckner's Bar (P354)			X	11/19/1974	Auburn
Burns Home, Howell Home (P656)			X	7/2/1985	Auburn
Butcher Ranch (P357)			X	11/19/1974	Auburn
City of Auburn (404)				4/14/1948	Auburn
Clipper Gap (P359)		X	X	11/19/1974	Auburn
First Transcontinental Railroad-Auburn (780)		X		11/20/1962	Auburn
Grizzly Bear House (P355)			X	11/19/1974	Auburn
Liberty House (P356)			X	11/19/1974	Auburn
Masonic Temple, Masonic Hall (P821)			X	5/15/1996	Auburn
Mountain Quarries Bridge (N2227)	X			2/11/2004	Auburn
Old Auburn Historic District (N62)	X			12/29/1970	Auburn
Ophir (463)		X		8/30/1950	Auburn
Spring Garden School (P361)			X	11/19/1974	Auburn
Todd's Valley (P358)			X	11/19/1974	Auburn
U.S. Ranch (P360)			X	11/19/1974	Auburn

Source: California Department of Parks and Recreation Office of Historic Preservation, http://ohp.parks.ca.gov/ retrieved on 12/6/2020

In addition to the registered sites, there are several assets within Auburn that define the community and represent the City's history. Some of the historical sites of importance to Auburn are listed below.

- Auburn Joss House Museum
- Bernhard Museum Complex
- Downtown Auburn
- Historic Old Town Auburn
- Placer High School
- Placer County Museum

It should be noted that these lists may not be complete, as they may not include those currently in the nomination process and not yet listed. Additionally, as defined by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), any property over 50 years of age is considered a historic resource and is potentially eligible for the National Register. Thus, in the event that the property is to be altered, or has been altered, as the result of a major federal action, the property must be evaluated under the guidelines set forth by CEQA and NEPA. Structural mitigation projects are considered alterations for the purpose of this regulation.

Growth and Development Trends

As part of the planning process, changes in growth and development, both past and future, were examined in the context of hazard-prone areas, and how the changes in growth and development affect loss estimates and vulnerability over time. Information from the City of Auburn General Plan Housing Element, the California Department of Finance, the US Census Bureau form the basis of this discussion.

Historic Population Trends and Current Population

Population growth can increase the number of people living in hazard prone areas. Auburn has generally seen steady growth. Auburn has seen growth rates as shown in Table A-9.

Table A-9 City of Auburn – Population Changes Since 1950

Year	Population	Change	% Change
1950	4,653	–	–
1960	5,586	933	201%
1970	6,570	984	17.6%
1980	7,540	970	14.8%
1990	10,592	3,052	40.5%
2000	12,462	1,870	17.7%
2010[1]	13,330	868	7.0%
2020[2]	14,594	1,264	9.5%

Source: [1]US Census Bureau, [2]California Department of Finance

Special Populations and Disadvantaged Communities

Ethnicity

According to the 2012–2018 ACS, Auburn's population was predominately white non-Hispanic, at 90 percent. Less than two percent of the population was Asian, less than one percent of the population was Black, less than one percent was Native, less than one percent was some other race, and less than four percent was more than one race.

Age of Population

Overall, the City of Auburn has an older population than Placer County as a whole, with a median age of 48 compared to 41.6 for all of Placer County. Individuals 20 to 34 years of age account for 16 percent of the city's population, 35 to 54 years of age account for 26 percent of the population, 55 to 64 years of age make up 16 percent of the population, and seniors 65 and older account for 23 percent of the population. Nineteen years and under account for 20 percent of the population.

Vulnerable Populations and Assets

In 2020, the City of Auburn completed a Climate Change Vulnerability Assessment consistent with Government Code Section 65302(G), which assesses how the populations and assets in Auburn are vulnerable to different emergencies and hazardous conditions that may be created or made worse because of climate change. The primary categories assessed include populations, buildings and infrastructure, important economic assets, natural resources, and key community services. The assessment follows the recommended process in the updated California Adaptation Planning Guide, which is the state's guidance for how local communities should conduct climate adaptation planning efforts, including vulnerability assessments. As defined by the California Adaptation Planning Guide (2020), climate change vulnerability is considered the degree to which natural, built, and human systems are susceptible to harm from exposure or stresses associated with climate change and from the absence of adaptive capacity to adapt.

The Climate Change Vulnerability Assessment indicates that Auburn's populations and assets are most vulnerable to wildfires, extreme heat, and severe weather.

Populations in Auburn tend to be more vulnerable to extreme heat, human health hazards, and wildfire, which directly affect health outcomes. Due to financial limitations, mobility challenges, and lack of access to medical care, the most sensitive populations include households in poverty, seniors living alone, outdoor workers, and persons experiencing homelessness. The homes that vulnerable populations live in, especially those located on single access roads, are also highly vulnerable to direct damage from hazards such as landslides, severe weather, and wildfire, in addition to indirect damage from forestry pests and diseases that can weaken trees and cause them to fall on properties.

City-wide, the electricity transmission system is vulnerable to multiple hazards including severe weather, such as high winds that can trigger public safety power shutoffs, extreme heat that reduces the capacity and strains the system and wildfires that damage the system, ultimately disrupting energy service. An increase in forestry pests and diseases, droughts, extreme heat, and wildfire create higher vulnerabilities for the local and regional conifer forest ecosystem. This can in turn affect local economic activities in Auburn such as outdoor recreation activities and visitors that travel through Auburn to get to state and national parks and forests.

Land Use

State planning law requires that the land use element of a general plan include a statement of the standard population density, building intensity, and allowed uses for the various land use designations in the plan (Government Code Section 65302(a)). The Auburn Municipal Code provides detailed land use and development standards for development.

Development since 2016 Plan

As discussed in Section 4.3.1 of the Base Plan, future development has occurred in the City since the last Plan. Some of this has occurred in hazard prone areas. The City Building Department tracked total building permits issued since 2016 for the City. These are tracked by total development, property use type, and hazard risk area. These are shown in Table A-10 and Table A-11.

Table A-10 City of Auburn – Total Development Since 2016

Property Use	2016	2017	2018	2019	2020
Agricultural	0	0	0	0	0
Commercial	2	5	3	0	0
Industrial	0	0	0	0	0
Residential	22	40	32	12	20
Unknown	0	0	0	0	0
Total	**24**	**45**	**35**	**12**	**20**

Source: City of Auburn Building Department

Table A-11 City of Auburn – Development in Hazard Areas since 2016

Property Use	1% Annual Chance Flood	Wildfire Risk Area[1]	Other
Agricultural	0	0	0
Commercial	0	10	0
Industrial	0	0	0
Residential	2	136	0
Unknown	0	0	0
Total	**2**	**146**	**0**

Source: City of Auburn Building Department

[1]Moderate or higher wildfire risk area

Future Development

The Sacramento Council on Governments (SACOG) modeled population projections for the City of Auburn and other areas of the region in 2012 for a Metropolitan Transportation Plan/Sustainable Communities Strategy report. This forecast uses a 2008 base year estimate with projections to 2020 and 2035 for population, housing units, households and employment. SACOG estimated the City population in 2020 and 2035 to be 14,099 and 16,560 respectively.

According to DOF estimates, as of 2019, the City of Auburn had a population of 14,392; this was a population growth of eight percent since 2010. This growth rate was significantly lower than Placer County's growth, which was 14 percent from 2010 to 2019. In comparison to other cities located in south Placer County, Auburn has not experienced the same growth and has retained a small-town atmosphere.

SACOG provided population projections through 2040. Based on these numbers, the city is expected to grow by less than one percent between 2019 and 2040. The County as a whole is expected to have a 27 percent increase by 2040.

SACOG has determined that Auburn has a housing construction need of 310 units for the planning period 2021–2029. Of the total 310 units, 35 percent (or 109 units) should be affordable to lower-income households, 19 percent to moderate-income households, and 45 percent to above moderate-income households.

The 2013 to 2021 Housing Element identifies numerous areas within the City of Auburn that are in the planning stage or have been approved for development of new subdivisions. Table A-12 provides the number of lots, acreages, location, and status of residential subdivisions in the planning stages or approved by the City.

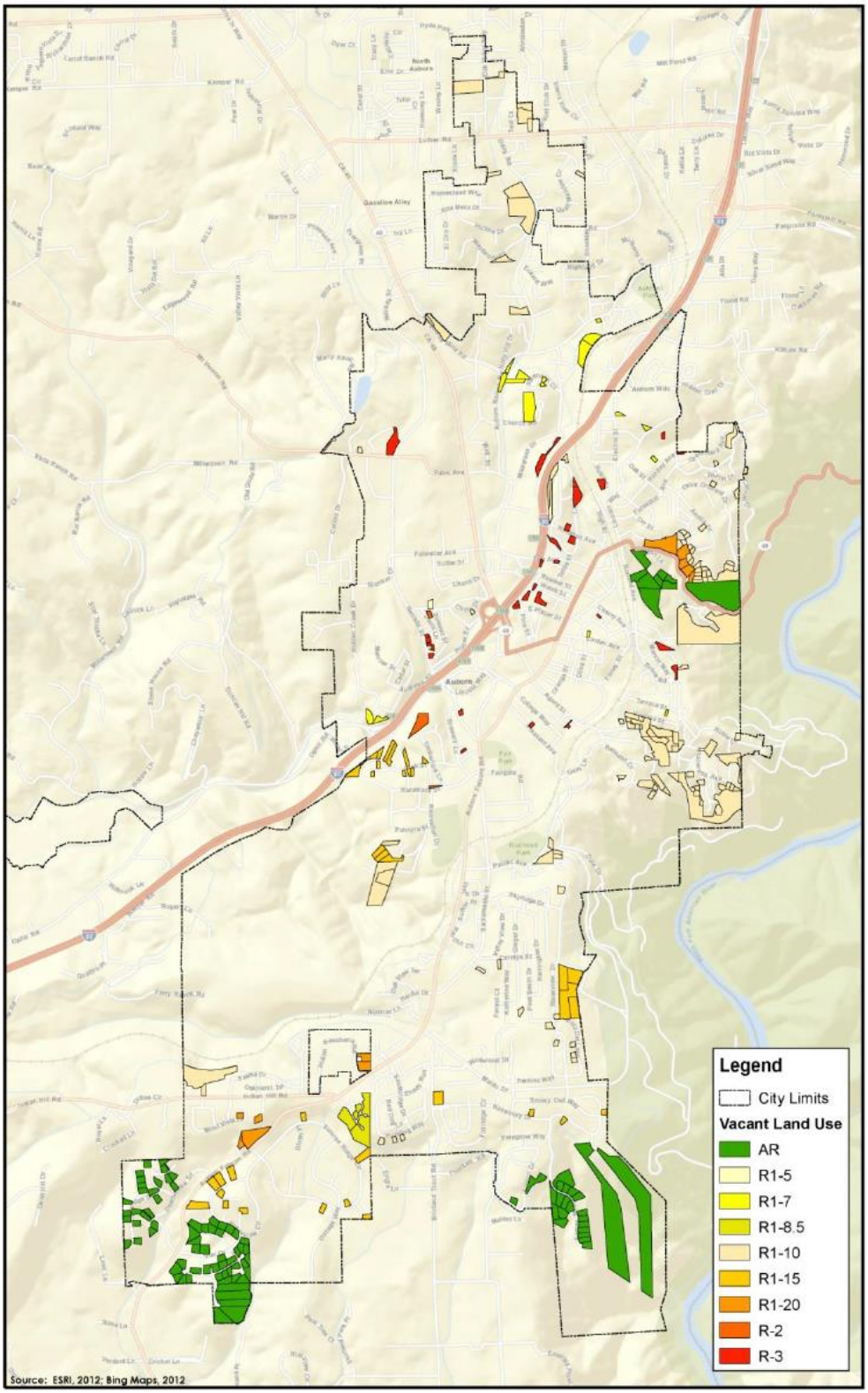
Table A-12 Auburn Residential Subdivision Status Listing

Subdivision	Lots/Units	Acres	Location	Status
Auburn Bluffs	29	9.6	East of Auburn Folsom Road at Indian Hill Road	Tentative map approved 1/15/2008
Auburn Bluffs Lot E (SUB 785)	20	15.5	East of Auburn Folsom Road, South of Sunrise Ridge CR	9 lots available
Baltimore Ravine Specific Plan	±1200-1300	±264	East of Interstate 80; west of Auburn Folsom Road; north of UPRR	Specific Plan approved 2/20014, land use and zoning approved for Phase 1 (270 units)
Canyon Creek (SUB 03-2)	24	11	406 Maidu Drive	Tentative map approved
Canyon Ridge Lane (SUB 06-2)	6	7.2	143 Borland Ave	Tentative map approved
Canyon Rim Estates (SUB 02-3)	23	120	Southern Terminus of Eagles Nest	16 lots available
Diamond Ridge (SUB 760)	47	26.7	South of Indian Hill Rd, West of Santa Barbara Subdivision	1 lot available
Granite Bay Vista (SUB 758)	80	80	West of Auburn Folsom Rd, Immediately North of City Limits	27 lots available
Knollwood Lot Split (LS 04-1)	3	2.6	471 Knollwood Drive	3 lots available
Monticielo (SUB 751)	63	24	Riverview Dr, North of Maidu Dr	7 lots available
Southridge VI (SUB 781)	48	17.7	South End of Southridge Dr	3 lots available
Sunny Creek (SUB 06-1)	13	±4	1161 Oakridge Way	Tentative map approved
The Outlook @ Indian Hill (SUB 02-2)	70	70	East of Auburn Folsom, Immediately North of City Limits	38 lots available
Vienna Woods (SUB 04-4)	24	±6	585 Dairy Road	Tentative map approved
View Crest Estates (SUB 02-4)	7	5	South of Indian Hill, East of Diamond Ridge Subdivision	2 lots available
Whitehawk Meadows	18	10.2	West of Auburn Folsom Rd, directly opposite entry to Vintage Oaks	Tentative map approved
Woodland Estates (SUB 782)	34	16	West end of High St and Clark St	14 lots available
Multi-Family				
Tuscan Pals Condos	8	0.62	133 Electric Street	Tentative map approved
Wall Street Condos	30	2.03	580 Wall Street	Tentative map approved

Source: City of Auburn, 2012-2021 Housing Element

Most of the vacant parcels scattered throughout the City are surrounded by existing development and could be classified as infill. However, due to the topography of the City vacant land could possibly have constraints that might include limited access, wetlands, native trees, and geologic constraints. Figure A-3 illustrates the locations of available vacant land in the City.

Figure A-3 Vacant Land Inventory



Source: City of Auburn 2013-2021 Housing Element

The future housing needs for the City of Auburn will be provided through a combination of development in the City's numerous infill sites as well as the land provided in the Baltimore Ravine Specific Plan (BRSP). The City of Auburn estimates that there are an additional 338 acres of undeveloped residentially zoned infill land available within the City which can provide at least 900 units. In addition, the BRSP, a master planned community located in south Auburn, adopted in 2011 which meets all of the "by-right" requirements identified in program I of the 2008 Housing Element, provides a total of 725 units on 277 acres, including a minimum of 72 units affordable to very low-, low-, and moderate- income families consistent with the SACOG compact.

The future housing needs for the City of Auburn will be provided through a combination of development in the City's numerous infill sites as well as the land provided in the Baltimore Ravine Specific Plan (BRSP). The City of Auburn has included 164.22 acres of undeveloped residentially zoned infill land available within the city, which can provide at least 570 units. In addition, the BRSP, a master-planned community located in south Auburn adopted in 2011, provides a total of 725 units on 277 acres, including a minimum of 72 units affordable to very low-, low-, and moderate-income families.

Historically, developers in the City of Auburn have built at densities below what the City's Zoning Ordinance allows. Calculation of the potential number of new dwelling units within each residential district was based on the average densities of projects constructed over the past 15 years. For purposes of calculating potential future single-family dwelling units on vacant land, the City assumes projects will, on average, be built out at 65 percent of the maximum permitted density allowed by the Zoning Ordinance.

The City evaluated the affordable higher-density residential developments that developed over the last 20 years. The resulting project densities, ranging between 10.4 and 30 units per acre with an average density of approximately 15.7 units per acre, are appropriate to meet the needs of lower-income households. The smallest parcel developed with affordable high-density residential was the Cherry Avenue project, where four units were constructed on a 0.33-acre site. The Valley Oaks and Mercy Senior Apartment projects included approval of density bonuses. The multifamily affordable housing projects constructed in the City include:

- Valley Oaks (1993–94) 60 senior assisted units 30 units/acre
- Cherry Avenue (1994–95) 4 assisted units 12 units/acre
- Palm Terrace Apartments (2003) 80 assisted units 10.4 units/acre
- Mercy Senior Apts (2013) 60 senior assisted units 20 units/acre

More general information on growth and development in Placer County as a whole can be found in "Growth and Development Trends" in Section 4.3.1 Placer County Vulnerability and Assets at Risk of the Base Plan.

In the immediate future, the City of Auburn has four areas that are being developed. One of these areas it at the municipal airport, while three are in the City. Auburn Municipal Airport future development includes:

- APN: 052-010-028 - Helicopter parking areas are recommended to be relocated to provide standard parking areas that have proper separation from fixed wing operations. Additionally, to meet the future demand for helicopter operations it's recommended to provide an additional helicopter parking spot.
- APN: 052-190-018 - East hangar area access, where additional hangar capacity can be accommodated, is limited by both a five-point taxiway intersection at its access point and non-standard clearances along

the taxiway entrance. Improved circulation in this area with FAA standard separations will enhance the safety of this area and allow for additional hangar capacity driven by increased demand

- APN: 052-190-018 - The GA terminal building is dated and overall appearance is declining. In order to meet the airport's future needs it's recommended to enhance and update the existing terminal building through the creation of a grand entrance to the Airport. The recommended GA terminal building would incorporate the on-airport restaurant and FBO. The terminal could serve as a source of pride and gateway to the City, County and region.

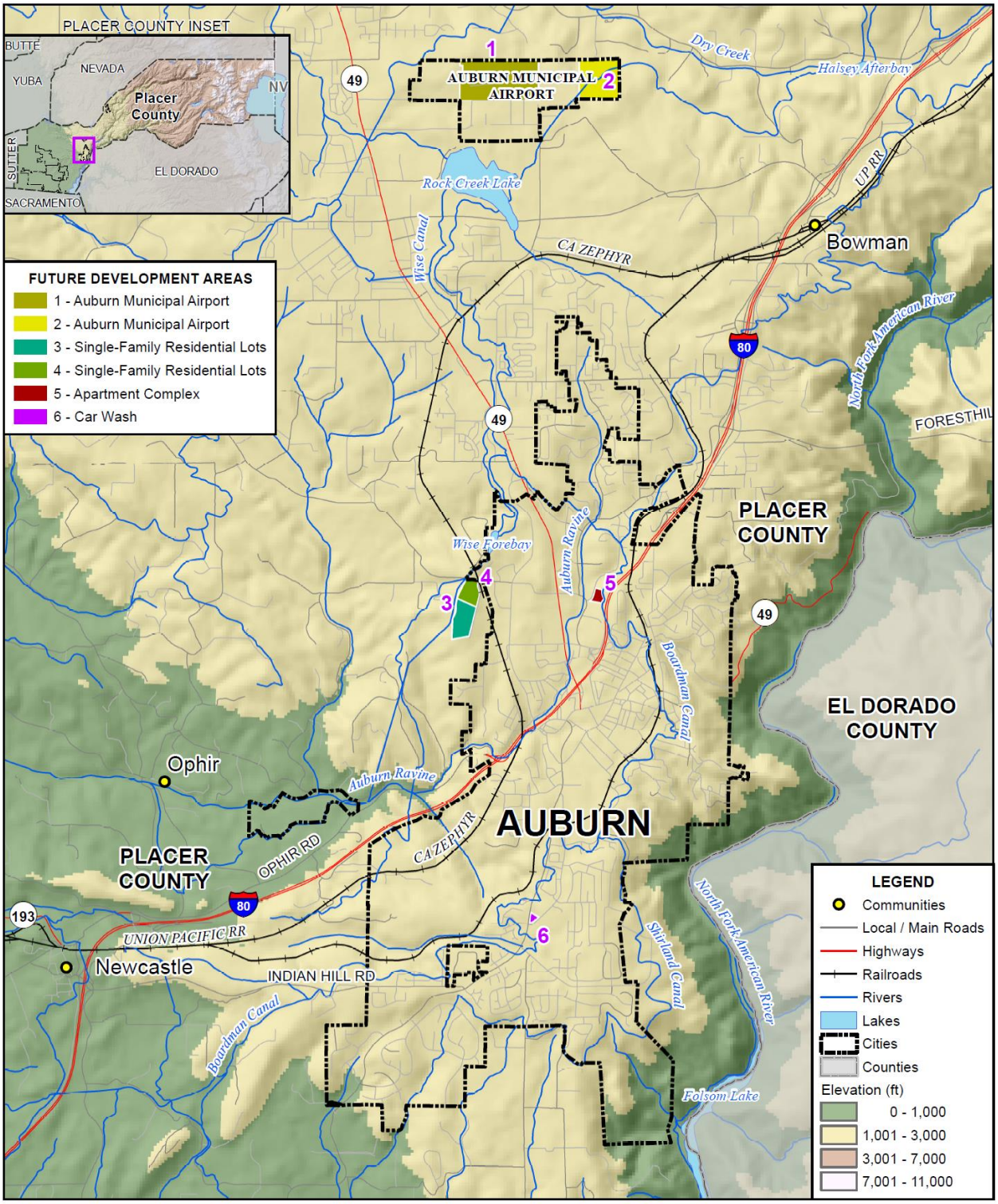
Auburn City future development includes the following three areas:

- Car Wash at 631 Auburn Folsom, APN 055-150-044, C-1 zoned - 2436 sf carwash with 2 open wash bays (1 RV, 1 regular), an automatic tunnel, and an equipment room. Project also includes parking and ADA path of travel. Located on the front /corner of the Maidu market parking lot.
- APN 001-020-055-000 Seven (7) Unit Apartment Complex The applicant requests approval, by resolution, of a Design Review Permit for the construction of a seven (7) unit apartment complex on a 0.5-acre lot located at 655 Mikkelsen Drive.
- APN 038-300-017-000 R-2 zoned - APN 038-300-019-000 Request to subdivide two parcels totaling approximately 27.9 acres, located at the south side of Mt. Vernon Road, west of the City of Auburn (975 and 1055 Collins Drive) into 65 single-family residential lots. The project also proposes the annexation of the two subdivision parcels, the adjacent 12.9-acre Auburn Cemetery District property and 4.5-acre Union Pacific Railroad property.

GIS Analysis

Using GIS, the following methodology was used in determining parcel counts and acreages with future development projects in the City of Auburn. Future development areas in the City were provided in mapped format by the City. 4 areas were provided. Using the GIS parcel spatial file for each of these areas, the 4 areas and 6 parcels associated with future development projects for which the analysis was to be performed were identified. Utilizing the future development project spatial layer, the parcel centroid data was intersected to determine the parcel counts within each area. Figure A-4 shows the locations of future development areas the City is planning to develop. Table A-13 shows the parcels and acreages of each future development area in the City.

Figure A-4 City of Auburn – Future Development Areas



Data Source: Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table A-13 City of Auburn – Future Development Area Parcel and Acre Counts

Future Development / Map Number / Description / APN	Total Parcel Count	Improved Parcel Count	Total Acres
Apartment Complex	1	1	3.1
Auburn Municipal Airport	2	0	118.3
Car Wash	1	1	1.3
Single-Family Residential Lots	2	2	27.6
Grand Total	**6**	**4**	**150.**

Source: City of Auburn GIS

A.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table A-5 as high or medium significance hazards. Impacts of past events and vulnerability of the City to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Placer County Planning Area). Methodologies for evaluating vulnerabilities and calculating loss estimates are the same as those described in Section 4.3 of the Base Plan.

An estimate of the vulnerability of the City to each identified priority hazard, in addition to the estimate of likelihood of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Depending on the hazard and availability of data for analysis, this hazard specific vulnerability assessment also includes information on values at risk, populations at risk, critical facilities and infrastructure, and future development.

Climate Change

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Climate change adaptation is a key priority of the State of California. The 2018 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the state's infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and earlier runoff of both snowmelt and rainwater in the year. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing. Increases in wildfire intensity and strength is also occurring in California.

Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the City, Placer County, and State of California. There is no scale to measure the extent of climate change. Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow. The duration of climate change is not yet known, but is feared to be tens to hundreds of years.

Past Occurrences

Climate change has never been directly linked to any declared disasters. While the City noted that climate change is of concern, no specific impacts of climate change could be recalled. The City and HMPC members noted that the strength of storms does seem to be increasing and the temperatures are getting hotter.

Changes to the global climate system are expected to affect future natural hazards in and around Auburn. Many natural hazards are expected to become more frequent and intense in coming years and decades, although some changes are already visible. According to state reports and the Placer County Sustainability Plan, Auburn can expect the following changes to climate-related hazards:

- Periods of both very high and very low precipitation are likely to become more common, which is expected to increase the frequency of both droughts and floods. More rapid melting of the Sierra snowpack is likely to increase the risk of spring flooding, while droughts may become more likely in the late summer and autumn.
- Higher temperatures are expected to cause an increase in extreme heat days. Historically, Auburn experiences an average of four extreme heat days each year, which is any day where temperatures exceed 102°F. These extreme heat days are projected to occur 23 to 32 times each year by around 2050, and 35 to 56 times annually by the end of the century.
- Severe weather events, such as intense storms and high winds are expected to become more frequent and intense. Auburn may experience an increase in hazardous events, such as floods and landslides as a result.
- Wildfires are expected to occur more frequently around Auburn due to hotter, drier conditions. While locations higher in the Sierras face the greatest risk, the areas immediately around Auburn are still projected to see an increase in wildfire activity. According to the Placer County Sustainability Plan,

wildfire activity across Placer County is expected to increase approximately 127 percent above historic levels by the end of the century.

- Pests and organisms that cause or spread disease may be active for a longer period of time due to warmer temperatures. Changes in temperature and precipitation patterns could cause new pests and diseases to be active in and around Auburn. Such pests and diseases may not only affect human health but could harm local ecosystems and agricultural activities.

Vulnerability to and Impacts from Climate Change

The California Adaptation Planning Guide (APG) prepared by California OES and CNRA was developed to provide guidance and support for local governments and regional collaboratives to address the unavoidable consequences of climate change. California's APG: Understanding Regional Characteristics has divided California into 11 different regions based on political boundaries, projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. Placer County falls within the North Sierra Region characterized as a sparsely settled mountainous region where the region's economy is primarily tourism-based. The region is rich in natural resources, biodiversity, and is the source for the majority of water used by the state. This information can be used to guide climate adaptation planning in the City and Placer County Planning Area.

The California APG: Understanding Regional Characteristics identified the following impacts specific to the North Sierra region in which the Placer County Planning Area is part of:

- Temperature increases
- Decreased precipitation
- Reduced snowpack
- Reduced tourism
- Ecosystem change
- Sensitive species stress
- Increased wildfire
- Human health hazards

Future Development

The City could see population fluctuations as a result of climate impacts relative to those experienced in other regions, and these fluctuations are expected to impact demand for housing and other development.

In 2020, the City of Auburn completed a Climate Change Vulnerability Assessment consistent with Government Code Section 65302(G), which assesses how the populations and assets in Auburn are vulnerable to different emergencies and hazardous conditions that may be created or made worse because of climate change. The primary categories assessed include populations, buildings and infrastructure, important economic assets, natural resources, and key community services. The assessment follows the recommended process in the updated California Adaptation Planning Guide, which is the state's guidance for how local communities should conduct climate adaptation planning efforts, including vulnerability assessments. As defined by the California Adaptation Planning Guide (2020), climate change vulnerability is considered the degree to which natural, built, and human systems are susceptible to harm from exposure or stresses associated with climate change and from the absence of adaptive capacity to adapt.

The Climate Change Vulnerability Assessment indicates that Auburn's populations and assets are most vulnerable to wildfires, extreme heat, and severe weather.

Drought & Water Shortage

Likelihood of Future Occurrence–Occasional
Vulnerability–Medium

Hazard Profile and Problem Description

Drought is a complex issue involving many factors—it occurs when a normal amount of precipitation and snow is not available to satisfy an area's usual water-consuming activities. Drought can often be defined regionally based on its effects. Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically. Drought affects different sectors in different ways and with varying intensities. Adequate water is the most critical issue and is critical for agriculture, manufacturing, tourism, recreation, and commercial and domestic use. As the population in the area continues to grow, so will the demand for water.

Location and Extent

Drought and water shortage are regional phenomenon. The whole of the County, as well as the whole of the City, is at risk. The US Drought Monitor categorizes drought conditions with the following scale:

- None
- D0 – Abnormally dry
- D1 – Moderate Drought
- D2 – Severe Drought
- D3 – Extreme drought
- D4 – Exceptional drought

Drought has a slow speed of onset and a variable duration. Drought can last for a short period of time, which does not usually affect water shortages and for longer periods. Should a drought last for a long period of time, water shortage becomes a larger issue. Current drought conditions in the City and the County are shown in Section 4.2.11 of the Base Plan.

Past Occurrences

There have been two state and one federal disaster declaration from drought. This can be seen in Table A-14.

Table A-14 Placer County – State and Federal Drought Disaster Declarations 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Drought	1	2014	1	1977

Source: Cal OES, FEMA

Since drought is a regional phenomenon, past occurrences of drought for the City are the same as those for the County and includes 4 multi-year droughts since 1950. Details on past drought occurrences can be found in Section 4.2.11 of the Base Plan.

The City had no past affect by the most recent drought occurring from 2014-2016.

Vulnerability to and Impacts from Drought and Water Shortage

Based on historical information, the occurrence of drought in California, including the City, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future. Periods of actual drought with adverse impacts can vary in duration, and the period between droughts can be extended. Although an area may be under an extended dry period, determining when it becomes a drought is based on impacts to individual water users.

The vulnerability of the City to drought is City-wide, but impacts may vary and include reduction in water supply and an increase in dry fuels. The potential for a reduction in water supply during drought conditions generally leads to both mandated and voluntary conservation measures during extended droughts. During these times, the cost of water can also increase. The increased dry fuels and fuel loads associated with drought conditions can also result in an increased fire danger. In areas of extremely dry fuels, the intensity and speed of fires can be significant. Water supply and flows for fire suppression can also be an issue during extended droughts.

Other qualitative impacts associated with drought in the City and Placer County are those related to water intensive activities such as, municipal usage, commerce, tourism, recreation and agricultural use. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding.

With more precipitation likely falling as rain instead of snow in the Sierra's, and warmer temperatures causing decreased snowfall to melt faster and earlier, water supply is likely to become more unreliable. In addition, drought and water shortage is predicted to become more common. This means less water available for use over the long run, and additional challenges for water supply reliability, especially during periods of extended drought.

Future Development

As the population in the area continues to grow, so will the demand for water. Ongoing planning will be needed by the City and water agencies to account for population growth and increased future water demands.

Earthquake

Likelihood of Future Occurrence–Occasional/Unlikely
Vulnerability–Medium

Hazard Profile and Problem Description

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up, and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks, such as water, power, gas, communication, and transportation. Earthquakes may also cause collateral emergencies including dam and levee failures, seiches, hazmat incidents, fires, avalanches, and landslides. The degree of damage depends on many interrelated factors. Among these are: the magnitude, focal depth, distance from the causative fault, source mechanism, duration of shaking, high rock accelerations, type of surface deposits or bedrock, degree of consolidation of surface deposits, presence of high groundwater, topography, and the design, type, and quality of building construction.

Location and Extent

Since earthquakes are regional events, the whole of the City is at risk to earthquake. Auburn and the surrounding area are at lower risk from significant seismic and geologic hazards. Although portions of western and eastern Placer County are located in a seismically active region, no known faults actually go through any of the cities or towns. The closest identified active fault is the Cleveland Hills fault, situated approximately 36 miles northwesterly of Auburn. It was the source of the 1975 Oroville earthquake (Richter Magnitude: 5.7). Another potential earthquake source is the Midland Fault Zone to the west, where an 1892 earthquake centered between Vacaville and Winters caused minor damage in nearby Lincoln.

Additionally, Auburn may experience minor ground shaking from distant major to great earthquakes on faults to the west and east. For example, to the west, both the San Andreas Fault (source of the 8.0 estimated Richter magnitude San Francisco earthquake that damaged Sacramento in 1906) and the closer Hayward fault have the potential for experiencing major to great events. To the east in Nevada, the several faults associated with a series of earthquakes in 1954, especially the major (7.1 Richter magnitude) December 16, 1954 Fairview Peak event (about 100 miles east of Carson City), could cause minor ground shaking in Auburn.

The amount of energy released during an earthquake is usually expressed as a magnitude and is measured directly from the earthquake as recorded on seismographs. An earthquake's magnitude is expressed in whole numbers and decimals (e.g., 6.8). Seismologists have developed several magnitude scales, as discussed in Section 4.2.12 of the Base Plan.

Another measure of earthquake severity is intensity. Intensity is an expression of the amount of shaking at any given location on the ground surface. Seismic shaking is typically the greatest cause of losses to structures during earthquakes. The City is located in an area where few earthquakes of significant

magnitude occur, so both magnitude and intensity of earthquakes are expected to remain low. Seismic shaking maps for the area show Placer County and the City fall within a low to moderate shake risk.

Past Occurrences

The City noted no past occurrences of earthquakes or that affected the City in any meaningful way.

Vulnerability to Earthquake

The combination of plate tectonics and associated California coastal mountain range building geology generates earthquake as a result of the periodic release of tectonic stresses. Placer County's mountainous terrain lies in the center of the North American and Pacific tectonic plate activity. There have been earthquakes as a result of this activity in the historic past, and there will continue to be earthquakes in the future of the California north coastal mountain region.

Fault ruptures itself contributes very little to damage unless the structure or system element crosses the active fault; however, liquefaction can occur further from the source of the earthquake. In general, newer construction is more earthquake resistant than older construction due to enforcement of improved building codes. Manufactured housing is very susceptible to damage because their foundation systems are rarely braced for earthquake motions. Locally generated earthquake motions and associated liquefaction, even from very moderate events, tend to be more damaging to smaller buildings, especially those constructed of unreinforced masonry (URM) and soft story buildings. According to the City, there are 65 buildings that are known to be constructed of unreinforced masonry. Four previously unreinforced masonry buildings have been retrofitted.

The Uniform Building Code (UBC) identifies four seismic zones in the United States. The zones are numbered one through four, with Zone 4 representing the highest level of seismic hazard. The UBC establishes more stringent construction standards for areas within Zones 3 and 4. All of California lies within either Zone 3 or Zone 4. The City of Auburn is within the less hazardous Zone 3.

Earthquake vulnerability is primarily based on population and the built environment. Urban are the most vulnerable, while more rural and sparsely populated areas are less vulnerable.

Impacts from Earthquake

Impacts from earthquake in the City will vary depending on the fault that the earthquake occurs on, the depth of the earthquake strike, and the intensity of shaking. Large events could cause damages to infrastructure, critical facilities, residential and commercial properties, and possible injuries or loss of life.

Earthquake Analysis

Due to the regional effects of an earthquake, a Hazus earthquake analysis was performed on a countywide basis. This can be found in Section 4.3.11 of the Base Plan. While these runs were not done specific to the City, maps showing damage in the County show greater areas of damage near the more built out and populated cities in the County.

Future Development

Although new growth and development corridors would fall in the area affected by earthquake, given the small chance of a major earthquake and the building codes in effect, development in the earthquake area will continue to occur. The City enforces the state building code, which mandates construction techniques that minimize seismic hazards. Future development in the City is subject to these building codes.

Flood: 1%/0.2% Annual Chance

Likelihood of Future Occurrence–Occasional/Unlikely
Vulnerability–Low

Although ranked as a low significance hazard by the City, due to its significance in the County and in the State of California, flood hazard assessment for Auburn is included here.

Hazard Profile and Problem Description

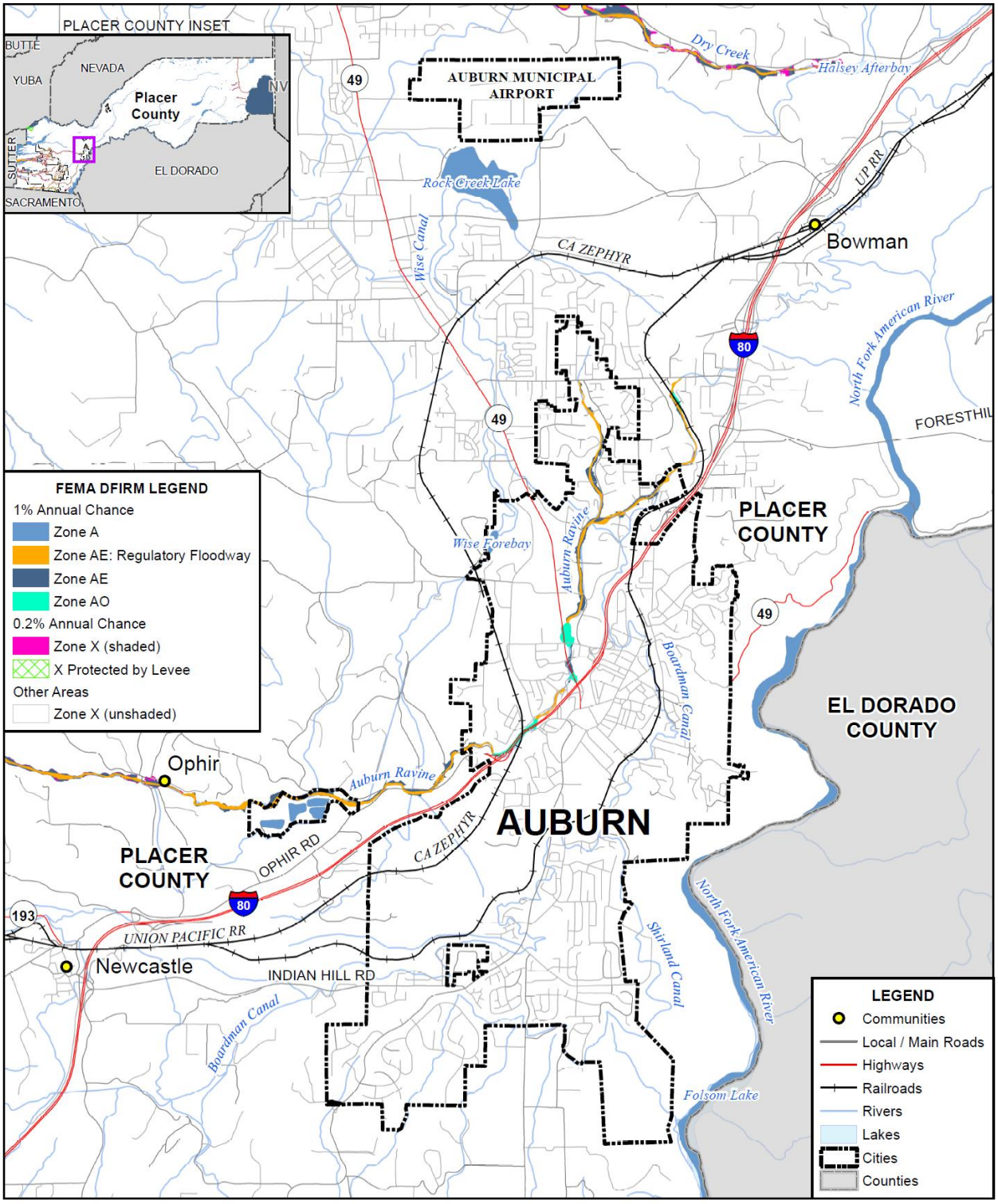
This hazard analyzes the FEMA DFIRM 1% and 0.2% annual chance floods. These tend to be the larger floods that can occur in the County or in the City, and have caused damages in the past. Flooding is a significant problem in Placer County and to a lesser extent, the City of Auburn. Historically, the City has been at risk to flooding primarily during the winter and spring months when river systems in the County swell with heavy rainfall and snowmelt runoff. Normally, storm floodwaters are kept within defined limits by a variety of storm drainage and flood control measures. Occasionally, extended heavy rains result in floodwaters that exceed normal high-water boundaries and cause damage.

As previously described in Section 4.2.13 of the Base Plan, the Placer County Planning Area and the City of Auburn have been subject to historical flooding. Auburn is traversed by several stream systems and is at risk to the 1% flood. No areas of the City fall in the 0.2% annual chance flood zone.

Location and Extent

The City of Auburn has areas located in the 1% annual chance flood zone. This is seen in Figure A-5.

Figure A-5 City of Auburn – FEMA DFIRM Flood Zones



Data Source: FEMA DFIRM 11/2/2018, Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table A-15 details the DFIRM mapped flood zones located within the City.

Table A-15 City of Auburn– DFIRM Flood Hazard Zones

Flood Zone	Description	Flood Zone Present in City of Auburn
A	1% annual chance flooding: No base flood elevations provided	X
AE	1% annual chance flooding: Base flood elevations provided	X
AE Floodway	1% annual chance flood: Regulatory floodway; Base flood elevations provided	X
AO	1% annual chance flooding: sheet flow areas. BFEs derived from detailed hydraulic analyses are shown in this zone.	X
Shaded X	0.2% annual chance flooding: The areas between the limits of the 1% annual chance flood and the 0.2-percent-annual-chance (or 500-year) flood	
X Protected by Levee	Areas protected by levees from 1% annual chance flood event. Levee protection places these areas in the 0.2% annual chance flood zone.	
X (unshaded)	No flood hazard	X

Source: FEMA

Additionally, flood extents can generally be measured in volume, velocity, and depths of flooding. Expected flood depths in the City vary, depending on the nature and extent of a flood event; specific depths are unknown. Flood durations in the City tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Flooding in the City tends to have a shorter speed of onset, due to the amount of water that flows through the City.

Geographical flood extents for the City from the FEMA DFIRMs are shown in Table A-16.

Table A-16 City of Auburn – Geographical DFIRM Flood Zone Extents

Flood Zone	Total Acres	% of Total Acres	Improved Acres	% of Total Improved Acres	Unimproved Acres	% of Total Unimproved Acres
1% Annual Chance	88	2.0%	21	1.1%	67	2.6%
0.2% Annual Chance	0	0.00%	0	0.00%	0	0.00%
Other Areas	4,429	98.0%	1,900	98.9%	2,529	97.4%
Total	**4,517**	**100.0%**	**1,922**	**100.0%**	**2,596**	**100.0%**

Source: FEMA DFIRM 11/2/2018

Past Occurrences

A list of state and federal disaster declarations for Placer County from flooding is shown on Table A-17. These events also likely affected the City to some degree.

Table A-17 Placer County – State and Federal Disaster Declarations from Flood 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Flood (including heavy rains and storms)	16	1950, 1955, 1958 (twice), 1962, 1963, 1969, 1973, 1980, 1983, 1986, 1995 (twice), 1997, 2008, 2017	13	1955, 1958, 1962, 1964, 1969, 1983, 1986, 1995 (twice), 1997, 2006 (twice), 2017

Source: Cal OES, FEMA

Within the City of Auburn, much of the flood damage occurs as a result of localized stormwater flooding, with limited flood damage occurring in the 100-year and greater floodplains.

- December 2005/January 2006. Flooding occurred in December 2005/January 2006 as a result of heavy stormwater runoff caused by severe winter storms. Although actual damages were minimal, the storms impacted transit on public roads and caused some business closures due to limited access. Stormwater infrastructure also sustained limited damage.
- The City had no past occurrences of flood events affecting the City since 2016.

Vulnerability to and Impacts from Flood

Floods have been a part of the City's historical past and will continue to be so in the future. During winter months, long periods of precipitation and the timing of that precipitation are critical in determining the threat of flood, and these characteristics further dictate the potential for widespread structural and property damages. Predominantly, the effects of flooding are generally confined to areas near the waterways of the County. As waterways grow in size from local drainages, so grows the threat of flood and dimensions of the threat. Areas with flood hazards are the natural drainage channels of the Auburn Ravine, Dutch Ravine, and Rock Creek, and the tunnel section of the Auburn Ravine under Old Town. Other flood hazard areas include the numerous under-sized bridges and culverts within the Auburn/Bowman Area.

This threatens structures in the floodplain. Structures can also be damaged from trees falling as a result of water-saturated soils. Electrical power outages happen, and the interruption of power causes major problems. Loss of power is usually a precursor to closure of governmental offices and community businesses. Public schools may also be required to close or be placed on a delayed start schedule. Roads can be damaged and closed, causing safety and evacuation issues. People may be swept away in floodwaters, causing injuries or deaths.

Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floods can be extremely dangerous, and even six inches of moving water can knock over a person given a strong current. During a flood, people can also suffer heart attacks or electrocution due to electrical equipment short outs. Floodwaters can transport large objects downstream which can damage or remove

stationary structures. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utility lines and interrupt services. Standing water can cause damage to crops, roads, foundations, and electrical circuits. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, loss of environmental resources, and economic impacts.

Assets at Risk

Based on the vulnerability of Auburn to the flood hazard, the sections that follow describes significant assets at risk in the City of Auburn. This section includes the values at risk, flooded acres, population at risk, and critical facilities at risk.

Values at Risk

GIS was used to determine the possible impacts of flooding within the City of Auburn. The methodology described in Section 4.3.12 of the Base Plan was followed in determining structures and values at risk to the 1% (100-year) and 0.2% (500-year) annual chance flood event. Table A-18 is a summary table for the City of Auburn. Parcel counts, values, estimated contents, and total values in the City are shown for the 1% and 0.2% annual chance flood zones, as well as for those properties that fall outside of the mapped FEMA DFIRM flood zones. As previously mentioned, there are no areas of the City within the 0.2% annual chance flood. Table A-19 breaks down Table A-18 and shows the property use, improved parcel count, improved values, estimated contents, and total values that fall in FEMA flood zones in the City.

Table A-18 City of Auburn – Count and Value of Parcels at Risk in Summary DFIRM Flood Zones

Flood Zone	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
1% Annual Chance Flood Hazard	60	23	$4,128,747	$7,908,824	$6,111,916	$18,149,487
0.2% Annual Chance Flood Hazard	0	0	$0	$0	$0	$0
Other Areas	6,430	5,157	$644,368,386	$1,541,085,558	$902,211,255	$3,087,665,199
Auburn Total	**6,490**	**5,180**	**$648,497,133**	**$1,548,994,382**	**$908,323,171**	**$3,105,814,686**

Source: FEMA 11/2/2018 DFIRM, Placer County 2020 Parcel/Assessor's Data

*With respect to improve parcels within the floodplain, the actual structures on the parcels may not be located within the actual floodplain, may be elevated and or otherwise outside of the identified flood zone

**This parcel count only includes those parcels in the 0.2% annual chance flood zone, exclusive of the 1% annual chance flood zone. The 0.2% annual chance flood, in actuality, also includes all parcels in the 1% annual chance flood zone.

Table A-19 City of Auburn – Count and Values of Parcels at Risk by Detailed Flood Zone and Property Use

Flood Zone / Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
1% Annual Chance Flood Hazard						
Zone A						
Industrial	1	0	$0	$0	$0	$0
Miscellaneous	2	0	$0	$0	$0	$0
Zone A Total	**3**	**0**	**$0**	**$0**	**$0**	**$0**
Zone AE Floodway						
Commercial	2	0	$0	$0	$0	
Miscellaneous	15	0	$110,672	$0	$0	$110,672
Natural / Open Space	2	0	$0	$0	$0	$0
Residential	10	10	$821,894	$1,888,820	$944,409	$3,655,123
Zone AE Floodway Total	**29**	**10**	**$932,566**	**$1,888,820**	**$944,409**	**$3,765,795**
Zone AE						
Commercial	3	1	$61,577	$140,328	$140,328	$342,233
Miscellaneous	6	0	$58,419	$0	$0	$58,419
Natural / Open Space	1	0	$0	$0	$0	$0
Residential	8	8	$770,886	$1,704,993	$852,496	$3,328,375
Zone AE Total	**18**	**9**	**$890,882**	**$1,845,321**	**$992,824**	**$3,729,027**
Zone AO						
Commercial	7	4	$2,305,299	$4,174,683	$4,174,683	$10,654,665
Miscellaneous	3	0	$0	$0	$0	$0
Zone AO Total	**10**	**4**	**$2,305,299**	**$4,174,683**	**$4,174,683**	**$10,654,665**
1% Annual Chance Flood Hazard Total	**60**	**23**	**$4,128,747**	**$7,908,824**	**$6,111,916**	**$18,149,487**
Other Areas						
Zone X (unshaded)						
Agricultural	4	3	$67,279	$44,949	$44,949	$157,177
Commercial	468	339	$79,186,630	$193,473,828	$193,473,828	$466,134,286
Industrial	46	26	$5,706,494	$11,762,352	$17,643,528	$35,112,374
Institutional	86	25	$6,491,701	$43,335,739	$43,335,739	$93,163,179
Miscellaneous	844	9	$16,570,376	$2,183,737	$2,183,737	$20,937,850
Natural / Open Space	131	10	$365,302	$774,045	$774,045	$1,913,392

Flood Zone / Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Residential	4,851	4,745	$535,980,604	$1,289,510,908	$644,755,429	$2,470,246,941
Zone X (unshaded) Total	**6,430**	**5,157**	**$644,368,386**	**$1,541,085,558**	**$902,211,255**	**$3,087,665,199**
Other Areas Total	**6,430**	**5,157**	**$644,368,386**	**$1,541,085,558**	**$902,211,255**	**$3,087,665,199**
Auburn Grand Total	**6,490**	**5,180**	**$648,497,133**	**$1,548,994,382**	**$908,323,171**	**$3,105,814,686**

Source: FEMA 11/2/2018 DFIRM, Placer County 2020 Parcel/Assessor's Data

*With respect to improve parcels within the floodplain, the actual structures on the parcels may not be located within the actual floodplain, may be elevated and or otherwise outside of the identified flood zone

**This parcel count only includes those parcels in the 0.2% annual chance flood zone, exclusive of the 1% annual chance flood zone. The 0.2% annual chance flood, in actuality, also includes all parcels in the 1% annual chance flood zone.

Table A-20 summarizes Table A-19 above and shows City of Auburn loss estimates and improved values at risk by FEMA 1% and 0.2% annual chance flood zones.

Table A-20 City of Auburn – Flood Loss Estimates

Flood Zone	Total Parcel Count	Improved Parcel Count	Improved Structure Value	Estimated Contents Value	Total Value	Loss Estimate	Loss Ratio
1% Annual Chance Flood Hazard	60	23	$7,908,824	$6,111,916	$14,020,740	$2,804,148	0.005%
0.2% Annual Chance Flood Hazard	0	0	$0	$0	$0	$0	0.00%
Grand Total	**60**	**23**	**$7,908,824**	**$6,111,916**	**$14,020,740**	**$2,804,148**	**0.01%**

Source: FEMA 11/2/2018 DFIRM, Placer County 2020 Parcel/Assessor's Data

*With respect to improve parcels within the floodplain, the actual structures on the parcels may not be located within the actual floodplain, may be elevated and or otherwise outside of the identified flood zone

**This parcel count only includes those parcels in the 0.2% annual chance flood zone, exclusive of the 1% annual chance flood zone. The 0.2% annual chance flood, in actuality, also includes all parcels in the 1% annual chance flood zone.

According to Table A-19 and Table A-20, the City of Auburn has 23 parcels and $14 million of structure and contents values or values in the 1% annual chance flood zones, with nothing in the 0.2% annual chance flood zone. These values can be refined a step further. Applying the 20 percent damage factor as previously described in Section 4.3.10 of the Base Plan, there is a 1% chance in any given year of a flood event causing

$2.8 million in damage in the City of Auburn. The loss ratio of 0.005% and 0.0% indicates that flood losses for 1% and 0.2% annual chance flooding, respectively, would be minimal.

Flooded Acres

Also of interest is the land area affected by the various flood zones. The following is an analysis of flooded acres in the City in comparison to total area within the City limits. The same methodology, as discussed in Section 4.3.12 of the Base Plan, was used for the City of Auburn as well as for the County as a whole. Table A-21 represents a detailed and summary analysis of total acres for each FEMA DFIRM flood zone in the City.

Table A-21 City of Auburn – Flooded Acres by Flood Zone

Flood Zone / Property Use	Total Acres	% of Total Acres	Improved Acres	% of Total Improved Acres	Unimproved Acres	% of Total Unimproved Acres
1% Annual Chance Flood Hazard						
Zone A						
Agricultural	0	0.00%	0	0.00%	0	0.00%
Commercial	0	0.00%	0	0.00%	0	0.00%
Industrial	13	0.001%	0	0.00%	13	0.002%
Institutional	0	0.00%	0	0.00%	0	0.00%
Miscellaneous	11	0.001%	0	0.00%	11	0.002%
Natural / Open Space	0	0.00%	0	0.00%	0	0.00%
Residential	0	0.00%	0	0.00%	0	0.00%
Zone A Total	**24**	**0.003%**	**0**		**24**	**0.003%**
Zone AE Floodway						
Agricultural	0	0.00%	0	0.00%	0	0.00%
Commercial	1	0.000%	1	0.000%	0	0.000%
Industrial	6	0.001%	0	0.00%	6	0.001%
Institutional	1	0.000%	1	0.001%	0	0.00%
Miscellaneous	13	0.001%	0	0.00%	13	0.002%
Natural / Open Space	2	0.000%	0	0.00%	2	0.000%
Residential	8	0.001%	8	0.004%	0	0.000%
Zone AE Floodway Total	**31**	**0.003%**	**10**	**0.006%**	**21**	**0.003%**
Zone AE						
Agricultural	0	0.00%	0	0.00%	0	
Commercial	2	0.000%	1	0.001%	1	0.000%
Industrial	2	0.000%	0	0.00%	2	0.000%

Flood Zone / Property Use	Total Acres	% of Total Acres	Improved Acres	% of Total Improved Acres	Unimproved Acres	% of Total Unimproved Acres
Institutional	1	0.000%	1	0.000%	0	0.00%
Miscellaneous	9	0.001%	0	0.00%	9	0.001%
Natural / Open Space	0	0.000%	0	0.00%	0	0.000%
Residential	6	0.001%	6	0.003%	0	0.000%
Zone AE Total	**20**	**0.002%**	**8**	**0.004%**	**12**	**0.002%**
Zone AO						
Agricultural	0	0.00%	0	0.00%	0	0.00%
Commercial	4	0.000%	3	0.002%	1	0.000%
Industrial	0	0.000%	0	0.00%	0	0.000%
Institutional	0	0.00%	0	0.00%	0	0.00%
Miscellaneous	9	0.001%	0	0.00%	9	0.001%
Natural / Open Space	0	0.000%	0	0.00%	0	0.000%
Residential	0	0.000%	0	0.000%	0	0.00%
Zone AO Total	**13**	**0.001%**	**3**	**0.002%**	**10**	**0.001%**
1% Annual Chance Flood Hazard Total	**88**	**0.010%**	**21**	**0.012%**	**67**	**0.009%**
Other Areas						
Zone X (unshaded)						
Agricultural	12	0.001%	1	0.001%	11	0.002%
Commercial	272	0.030%	158	0.088%	114	0.016%
Industrial	157	0.017%	19	0.010%	138	0.019%
Institutional	361	0.040%	73	0.041%	288	0.040%
Miscellaneous	1,542	0.172%	3	0.002%	1,539	0.214%
Natural / Open Space	351	0.039%	5	0.003%	346	0.048%
Residential	1,733	0.193%	1,641	0.911%	92	0.013%
Zone X (unshaded) Total	**4,429**	**0.493%**	**1,900**	**1.055%**	**2,529**	**0.352%**
Other Areas Total	**4,429**	**0.493%**	**1,900**	**1.055%**	**2,529**	**0.352%**
Auburn Grand Total	**4,517**	**0.502%**	**1,922**	**1.067%**	**2,596**	**0.361%**

Source: FEMA 11/2/2018 DFIRM

Population at Risk

The DFIRM flood zones were overlayed on the parcel layer. Those residential parcel centroids that intersect the flood zones were counted and multiplied by the 2010 Census Bureau average household factors for Auburn – 2.19. According to this analysis, there is a total population of 44 and 0 residents of the City at risk to flooding in the 1% and 0.2% annual chance floodplains, respectively. This is shown in Table A-22.

Table A-22 City of Auburn – Count of Improved Residential Parcels and Population by Flood Zone

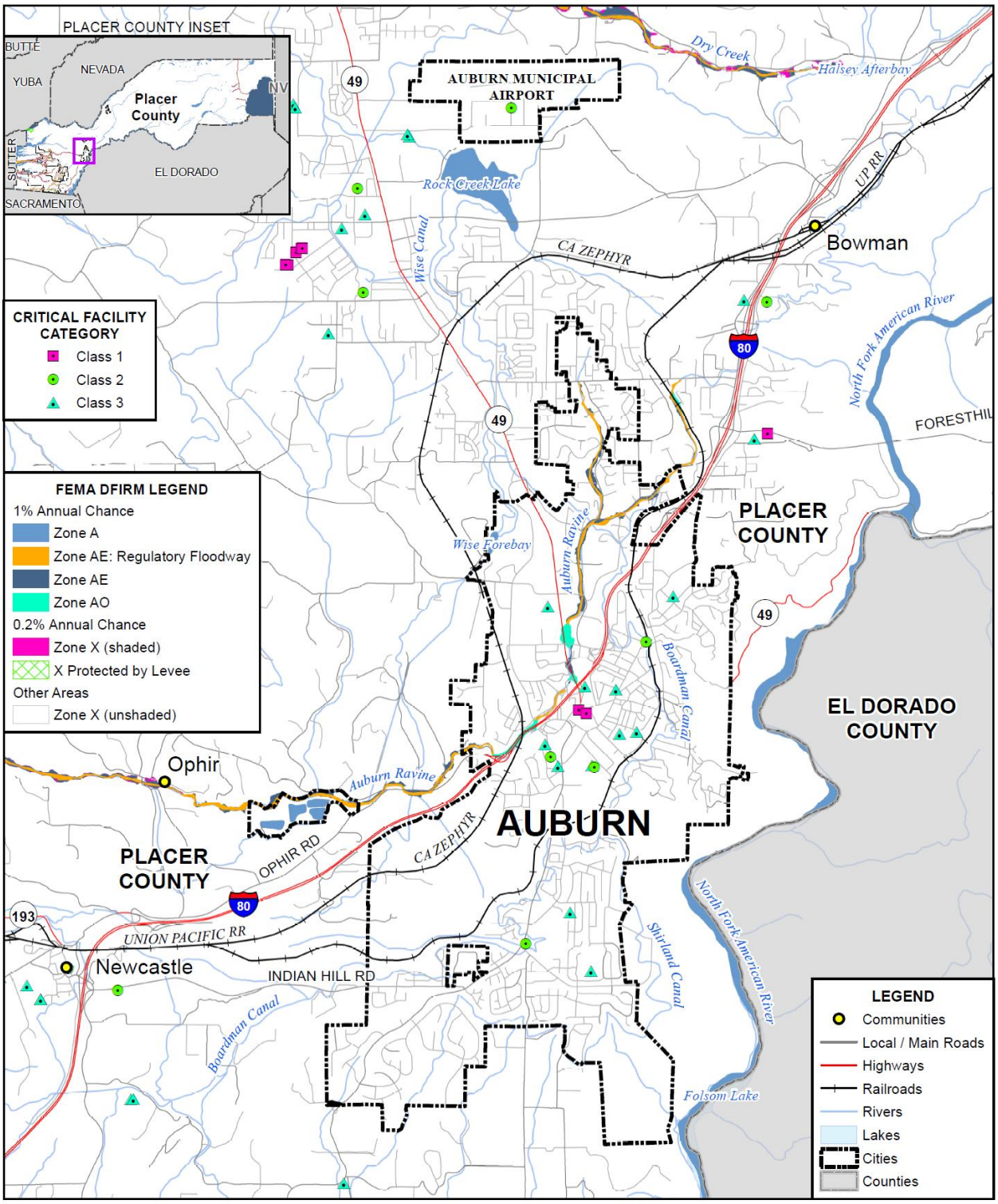
Jurisdiction	1% Annual Chance		0.2% Annual Chance	
	Improved Residential Parcels	Population at Risk	Improved Residential Parcels	Population at Risk
Auburn	18	44	0	0

Source: FEMA DFIRM 11/2/2018, Placer County 2020 Parcel/Assessor's Data, US Census Bureau

Critical Facilities at Risk

There are no critical facilities at risk in the City of Auburn in the flood zones, which can be seen on Figure A-6.

Figure A-6 City of Auburn – Critical Facilities and DFIRM Flood Zones



Data Source: FEMA DFIRM 11/2/2018, Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Insurance Coverage, Claims Paid, and Repetitive Losses

The City of Auburn joined the National Flood Insurance Program (NFIP) on December 23, 1983. The City does not participate in the CRS program. NFIP data indicates that as of August 21, 2020, there were 21 flood insurance policies in force in the City with $5,998,200 of coverage. Of the 21 policies, 18 were residential (single-family homes) and 3 were nonresidential; 9 of the policies were in A zones; the remaining 12 were in B, C, and X zones.

There have been 24 historical claims for flood losses totaling $607,083; all were located in B, C, or X zones. 23 of these were for pre-FIRM structures; 1 was for a post-FIRM structure. NFIP data further indicates that there are three repetitive loss (RL) buildings, with 2 RL buildings being insured. There have been a total of 12 RL losses, with 10 insured RL losses. 2 of the insured RL buildings has incurred 4 or more losses, making them Severe Repetitive Loss properties. All RL buildings are located outside of the 100- and 500-year floodplain in the B, C, or X zones. The RL properties are located in an older, built-out residential neighborhood with older infrastructure.

Based on this analysis of insurance coverage, the City has values at risk to the 1% annual chance and greater floods. Of the 23 improved parcels within the 1% annual chance flood zone, 12 (or 52.2 percent) of those parcels maintain flood insurance. This can be seen on Table A-23.

Table A-23 City of Auburn – Percentage of Policy Holders to Improved Parcels in the 1% Annual Chance Floodplain

Jurisdiction	Improved Parcels in SFHA (1% Annual Chance) Floodplain*	Insurance Policies in the SFHA (1% Annual Chance) Floodplain	Percentage of 1% Annual Chance Floodplain Parcels Currently Insured
City of Auburn	23	12	52.2%

Source: FEMA DFIRM 11/2/2018, Placer County 2020 Parcel/Assessor's Data

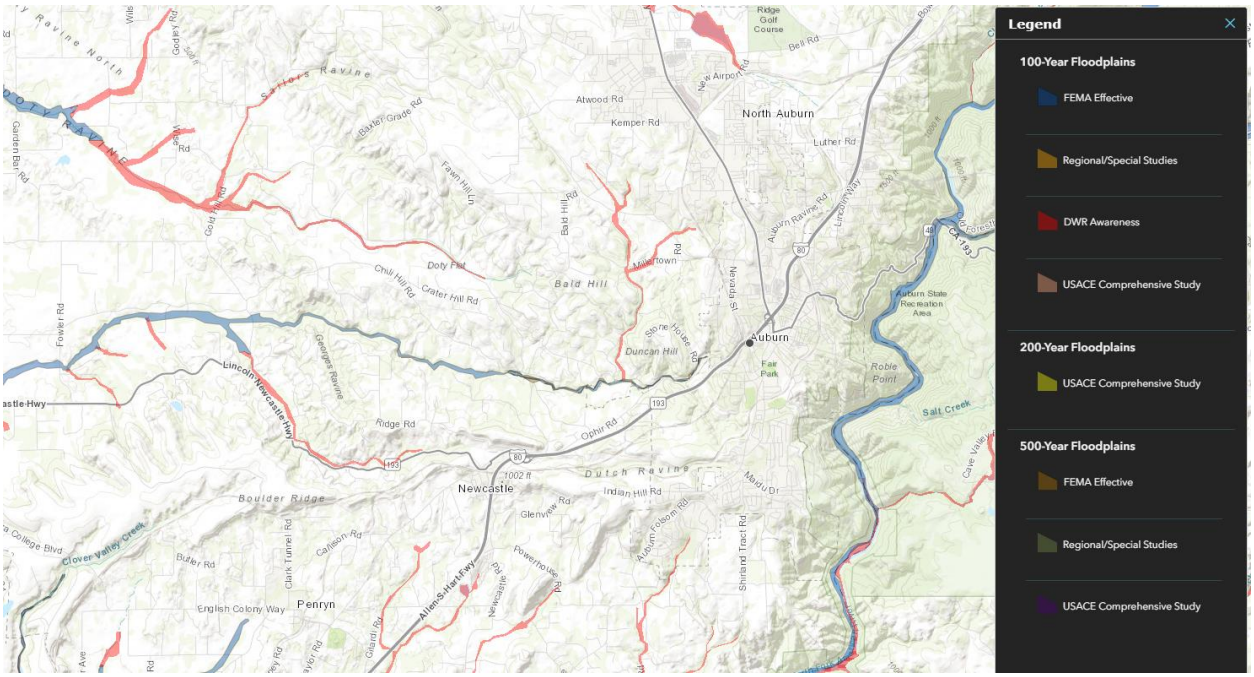
California Department of Water Resources Best Available Maps (BAM)

The FEMA regulatory maps provide just one perspective on flood risks in Placer County. Senate Bill 5 (SB 5), enacted in 2007, authorized the California DWR to develop the Best Available Maps (BAM) displaying 100- and 200-year floodplains for areas located within the Nevada-San Joaquin (SAC-SJ) Valley watershed. This effort was completed by DWR in 2008. DWR has expanded the BAM to cover all counties in the State and to include 500-year floodplains.

Different than the FEMA DFIRMs which have been prepared to support the NFIP and reflect only the 100-year event risk, the BAMs are provided for informational purposes and are intended to reflect current 100-, 200-(as applicable), and 500-year event risks using the best available data. The 100-year floodplain limits on the BAM are a composite of multiple 100-year floodplain mapping sources. It is intended to show all currently identified areas at risk for a 100-year flood event, including FEMA's 100-year floodplains. The BAM are comprised of different engineering studies performed by FEMA, Corps, and DWR for assessment of potential 100-, 200-, and 500-year floodplain areas. These studies are used for different planning and/or regulatory applications, and for each flood frequency may use varied analytical and quality control criteria depending on the study type requirements.

The value in the BAMs is that they provide a bigger picture view of potential flood risk to the City than that provided in the FEMA DFIRMs. The BAM map for Auburn is shown in Figure A-7.

Figure A-7 City of Auburn – Best Available Map



Source: California DWR

Legend explanation: Blue - FEMA 1%, Orange – Local 1% (developed from local agencies), Red – DWR 1%r (Awareness floodplains identify the 1% annual chance flood hazard areas using approximate assessment procedures.), Pink – USACE 1% (2002 Sac and San Joaquin River Basins Comp Study), Yellow – USACE 0.5% (2002 Sac and San Joaquin River Basins Comp Study), Tan – FEMA 0.2%, Grey – Local 0.2% (developed from local agencies), Purple – USACE 0.2% (2002 Sac and San Joaquin River Basins Comp Study).

Future Development

The potential for flooding may increase as floodwaters are channeled due to land development. Such changes can exacerbate flooding problems inside and outside of natural floodplains by altering or confining natural drainage channels. Floodplain modeling and master planning should be based on build out property use to ensure that all new development remains safe from future flooding. While local floodplain management, stormwater management, and water quality regulations and policies address these changes on a site-by-site basis, their cumulative effects can have a negative impact on the overall floodplain.

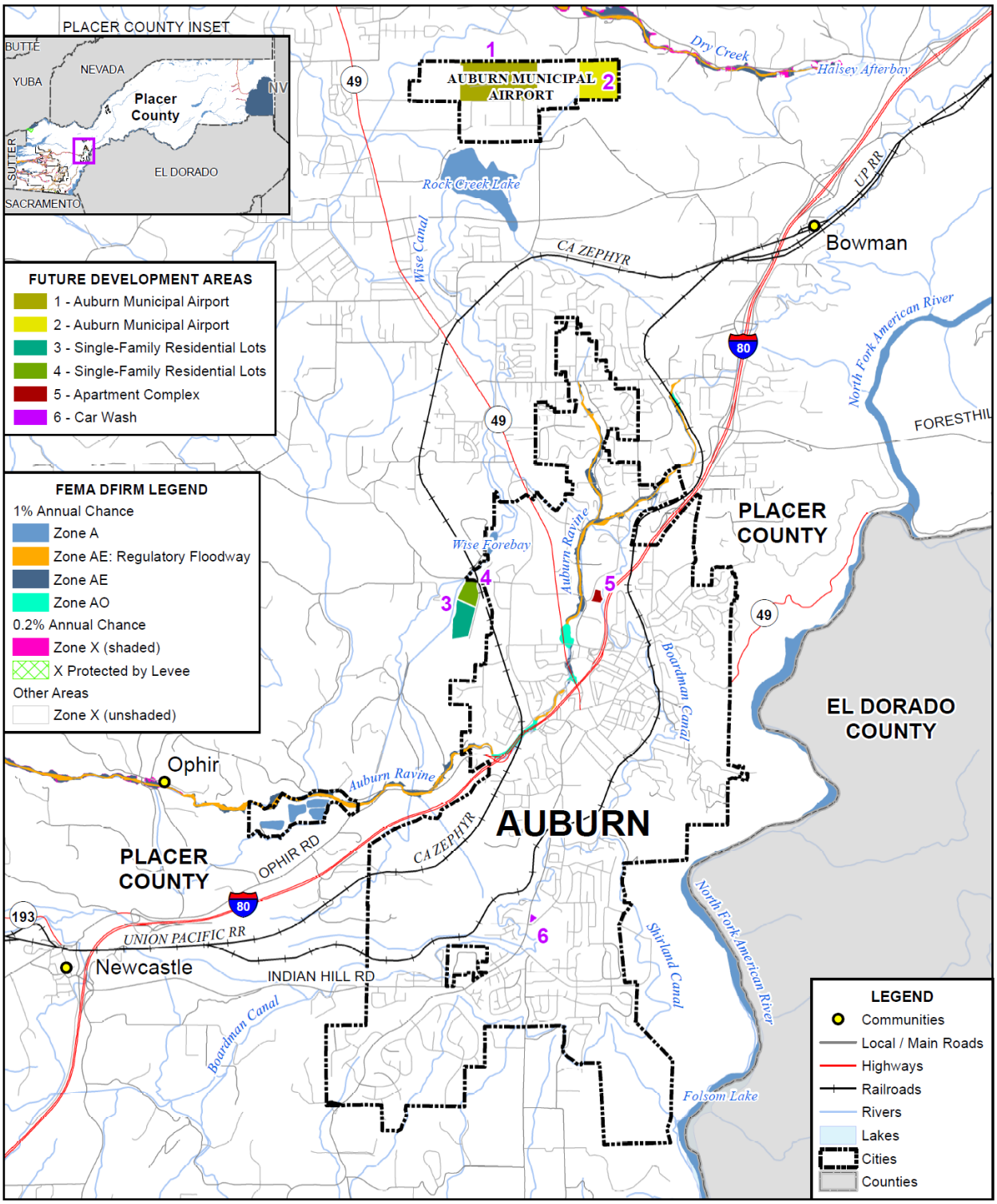
The City enforces the floodplain ordinance. If any development is to occur in the floodplain, it would have to conform to the elevation standards of the floodplain ordinance.

GIS Analysis

The City provided Future Development Areas were used as the basis for the inventory of future development areas for the City. Utilizing the future development project spatial layer, the parcel centroid data was intersected to determine the parcel counts within each area. Figure A-8 shows the locations of

future development areas the City is planning to develop on the FEMA DFIRM. As shown on Figure A-8, no future development areas fall in DFIRM flood zones, as such no tabular analysis was performed.

Figure A-8 City of Auburn – Future Development Areas and DFIRM Flood Zones



FOSTER MORRISON CONSULTING

COUNTY OF Placer

Data Source: FEMA DFIRM 11/2/2018, Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Flood: Localized Stormwater Flooding

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Flooding occurs in areas other than the FEMA mapped 1% and 0.2% annual chance floodplains. Flooding may be from drainages not studied by FEMA, lack of or inadequate drainage infrastructure, or inadequate maintenance. Localized, stormwater flooding occurs throughout the Placer County Planning Area during the rainy season from November through April. Prolonged heavy rainfall contributes to a large volume of runoff resulting in high peak flows of moderate duration.

Location and Extent

The City of Auburn is subject to localized flooding throughout the City. Flood extents are usually measured in areas affected, velocity of flooding, and depths of flooding. Expected flood depths in the City vary by location. Flood durations in the City tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Localized flooding in the City tends to have a shorter speed of onset, especially when antecedent rainfall has soaked the ground and reduced its capacity to absorb additional moisture.

Past Occurrences

Within the City of Auburn, much of the flood damage occurs as a result of localized stormwater flooding, with limited flood damage occurring in the 100-year and greater floodplains. The City noted the following past occurrences of localized flooding:

December 2005/January 2006. Flooding occurred in December 2005/January 2006 as a result of heavy stormwater runoff caused by severe winter storms. Although actual damages were minimal, the storms impacted transit on public roads and caused some business closures due to limited access. Stormwater infrastructure also sustained limited damage.

No past occurrences of localized stormwater flooding damages affecting the City since 2016.

Vulnerability to Localized Flooding

Historically, much of the growth in the City and County has occurred adjacent to streams, resulting in damages to property, and losses from disruption of community activities when the streams overflow. Additional development in the watersheds of these streams affects both the frequency and duration of damaging floods through an increase in stormwater runoff.

The City tracks localized flooding areas. Affected localized flood areas identified by the City of Auburn are summarized in Table A-24

Table A-24 City of Auburn – List of Localized Flooding Problem Areas

Road Name	Flooding	Pavement Deterioration	Washout	High Water	Landslide/ Mudslide	Debris	Downed Trees
Auburn Ravine Rd.	X	X	X	X		X	X
Dairy Rd.	X	X	X	X	X	X	X
Auburn Folsom	X	X	X	X	X	X	X
Old Town	X			X			
Pine Street	X			X		X	
Foresthill Ave	X	X		X		X	
Brook-Shields	X	X		X		X	
Oakwood Dr.	X			X		X	
Nevada-Andrews St.	X			X		X	
Placer St.	X		X	X		X	X
E. Lincoln Way-Alta Vista School Area	X			X		X	
Upper Sacramento St.	X			X		X	
Sutton Place	X			X		X	
Agard Street	X			X		X	
Gold Street	X			X		X	

Source: City of Auburn

Impacts

Primary concerns associated with stormwater flooding include impacts to infrastructure that provides a means of ingress and egress throughout the community. Ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Objects can also be buried or destroyed through sediment deposition. Floodwaters can break utility lines and interrupt services. Standing water can cause damage to crops, roads, and foundations. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards.

Future Development

Future development in the City will add more impervious surfaces causing an increase in stormwater runoff and the continued need to drain these waters. The City will need to be proactive to ensure that increased development has proper siting and drainage for stormwaters. The risk of localized flooding to future development can also be minimized by accurate recordkeeping of repetitive localized storm activity. Mitigating the root causes of the localized stormwater flooding will reduce future risks of losses.

Pandemic

Likelihood of Future Occurrence–Occasional
Vulnerability–Medium

Hazard Profile and Problem Description

According to the World Health Organization (WHO), a disease epidemic occurs when there are more cases of that disease than normal. A pandemic is a worldwide epidemic of a disease. A pandemic may occur when a new virus appears against which the human population has no immunity. A pandemic occurs when a new virus emerges for which people have little or no immunity, and for which there is no vaccine. This disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time. The U.S. Center for Disease Control and Prevention has been working closely with other countries and the World Health Organization to strengthen systems to detect outbreaks of that might cause a pandemic and to assist with pandemic planning and preparation. An especially severe a pandemic could lead to high levels of illness, death, social disruption, and economic loss.

Location and Extent

During a pandemic, the whole of the City, County, and surrounding region is at risk, as pandemic is a regional, national, or international event. The speed of onset of pandemic is usually short, while the duration is variable, but can last for more than a year as shown in the 1918/1919 Spanish Flu. There is no scientific scale to measure the magnitude of pandemic. Pandemics are usually measured in numbers affected by the pandemic, and by the number who die from complications from the pandemic.

Past Occurrences

There has been one state and federal disaster declaration due to pandemic, as shown in Table A-25.

Table A-25 Placer County – State and Federal Pandemic Disaster Declarations 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Pandemic	1	2020	1	2020

Source: Cal OES, FEMA

The 20th century saw three outbreaks of pandemic flu.

- The **1918-1919 Influenza Pandemic (H1N1)**
- The **February 1957-1958 Influenza Pandemic (H2N2)**
- The **1968 Influenza Pandemic (H3N2)**

To date, the 21st century has seen two acknowledged pandemics.

- **2009 Swine Flu (H1N1**)
- **2019/2020 COVID 19**

Impacts of COVID 19

The City of Auburn experienced impacts including but not limited to the public, schools, local businesses, and fiscally. The City saw interruption of basic services such as public transportation, health care, and the delivery of food and essential medicines. The City had a rise in hospitalizations and deaths, especially in the elderly population or those with pre-existing underlying conditions. Covid-19 forced multiple businesses to close temporarily (some permanently), and unemployment rose significantly. Supply chains for food and other necessary household items experienced interruptions in distribution due to a rapid increase in demand.

The pandemic did not affect the buildings, critical facilities, and infrastructure in the City. However, the pandemic had varying levels of impact on the citizens of the City and greater County. The full effects of the Covid-19 pandemic are still not clear as the effects of the pandemic are still occurring.

Vulnerability to Pandemic

Pandemic has and will continue to have impacts on human health in the region. A pandemic occurs when a new virus emerges for which there is little or no immunity in the human population; the virus causes serious illness and spreads easily from person-to-person worldwide. There are several strategies that public health officials can use to combat a pandemic. Constant surveillance regarding current pandemic, use of infection control techniques, and administration of vaccines once they become available. Citizens can help prevent spread of a pandemic by staying home, or "self-quarantining," if they suspect they are infected. Pandemic does not affect the buildings, critical facilities, and infrastructure in the City. Pandemic can have varying levels of impact to the citizens of the City and greater County, depending on the nature of the pandemic and often on preexisting conditions of those exposed.

Impacts

Impacts could range from school and business closings to the interruption of basic services such as public transportation, health care, and the delivery of food and essential medicines. Hospitalizations and deaths can occur, especially to the elderly or those with pre-existing underlying conditions. As seen with Covid-19, multiple businesses were forced to close temporarily (some permanently), and unemployment rose significantly. Supply chains for food can also be interrupted. Prisons may need to release prisoners to comply with social distance standards.

Future Development

Future development is not expected to be significantly impacted by this hazard, though population growth in the City could increase exposure to a pandemic, and increase the ability of each disease to be transmitted among the population of the City. If the median age of City residents continues to increase, vulnerability to pandemic diseases may increase, due to the fact that these diseases are often more deadly to senior citizens.

Severe Weather: Extreme Heat

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

According to FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and lasts for several weeks. Heat kills by taxing the human body beyond its abilities. In extreme heat and high humidity, evaporation is slowed, and the body must work extra hard to maintain a normal temperature." Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

In addition to the risks faced by citizens of the City, there are risk to the built environment from extreme heat. While extreme heat on its own does not usually affect structures, extreme heat during times of drought can cause wildfire risk to heighten. Extreme heat and high winds can cause Public Safety Power Shutdown (PSPS) events, creating significant issues in the City.

Extreme heat does occur on occasion resulting in the facilitation of "cooling centers" as set forth in the Placer County Heat Emergency Plan. The fairgrounds and Auburn-Placer Library located within the City are identified "cooling centers".

Location and Extent

Heat is a regional phenomenon and affects the whole of the City. Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly affect vulnerable populations and communities. Heat waves do not generally cause damage or elicit the immediate response of floods, fires, earthquakes, or other more "typical" disaster scenarios.

The NWS has in place a system to initiate alert procedures (advisories or warnings) when extreme heat is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. The NWS HeatRisk forecast provides a quick view of heat risk potential over the upcoming seven days. The heat risk is portrayed in a numeric (0-4) and color (green/yellow/orange/red/magenta) scale which is similar in approach to the Air Quality Index (AQI) or the UV Index. This can be seen in Section 4.2.2 of the Base Plan.

Past Occurrences

The City Planning Team noted that since extreme heat is a regional phenomenon, events that affected the County also affected the City. Those past occurrences were shown in the Base Plan in Section 4.2.2.

From late spring through fall, it is not unusual for temperatures to exceed 90°F and higher. The following highlights were taken from the Auburn Weather Station for the period of record from 1905 to 2014:

Record daily extremes include:

- May – 102°F (1910)
- June – 110°F (1925)
- July – 113°F (1972)
- August – 111°F (1978)
- September – 109°F (1950)
- October – 104°F (1928)

Average number of days in a month exceeding 90°F:

- April - .1 days
- May – 2.9 days
- June – 10.7 days
- July – 22.5 days
- August – 20.8 days
- September – 11.2 days
- October – 2.1 days

This equates to an average of 70.3 days annually in excess of 90°F.

The City of Auburn has no other specific events or past occurrences.

Vulnerability to Extreme Heat

The City experiences temperatures in excess of 90°F during the summer and fall months on a regular basis, sometimes exceeding 100°F. The temperature moves to 105-115°F in rather extreme situations. During these times, drought conditions may worsen and the City may see an increase in dry fuels. Also, PSPS events may occur during these times as well. Health issues are the primary concern with this hazard, although economic impacts can also be an issue.

Impacts

The elderly individuals below the poverty level, and other vulnerable populations are the most vulnerable to extreme temperatures. Nursing homes and elder care facilities are especially vulnerable to extreme heat events if power outages occur and air conditioning is not available. In addition, individuals below the poverty level may be at increased risk to extreme heat if use of air conditioning is not affordable. This is especially true of homeless people and the transient population.

Days of extreme heat have been known to result in medical emergencies, and unpredictable human behavior. Periods of extended heat and dryness (droughts) can have major economic, agricultural, and water resources impacts. Extreme heat can also dry out vegetations, making it more vulnerable to wildfire ignitions.

Future Development

Future development of new buildings in the City will likely not be affected by extreme heat. Extreme heat is more likely to affect vulnerable populations. Vulnerability to extreme heat will increase as the average

age of the population in each City shifts. It is encouraged that nursing homes and elder care facilities have emergency plans or backup power to address power failure during times of extreme heat and in the event of a PSPS. Low income residents and homeless populations are also vulnerable. Cooling centers for these populations should be utilized when necessary.

Severe Weather: Freeze and Snow

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

According to the NWS, winter snowstorms can include heavy snow, ice, and freezing conditions. Heavy snow can immobilize a region, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. Accumulations of snow can collapse roofs and knock down trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, damage repair, and business losses can have a tremendous impact on cities and towns.

Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days until the damage can be repaired. Power outages can have a significant impact on communities, especially critical facilities such as public utilities. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians. Freezing temperatures and ice can also cause significant damage to the agricultural industry.

Location and Extent

Freeze and snow are regional issues, meaning the entire City is at risk to cold weather and freeze events. Snow is rare in the City. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, the WRCC reports that in a typical year, minimum temperatures fall below 32°F on 22.6 days with 0 days falling below 0°F in western Placer County. Snowfall is measured in depths, and the WRCC reports that average snowfall on the western side of the County is 1.4 inches. Freeze and snow have a slow onset and can generally be predicted in advance for the County. Freeze events can last for hours (in a cold overnight), or for days to weeks at a time. Snow event can last for hours or days, but is more unlikely in the western portion of the County. When it does snow, snow amounts are limited and melts relatively quickly.

Past Occurrences

There has been no federal and one state disaster declarations in the County for freeze and snow, as shown on Table A-26.

Table A-26 Placer County – State and Federal Disaster Declarations from Freeze and Snow 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Freeze	1	1972	0	–

Source: Cal OES, FEMA

The City noted that cold and freeze is a regional phenomenon; events that affected the County also affected the City. Those past occurrences were shown in the Base Plan in Section 4.3.3. In the past the City of Auburn has experienced severe cold/freeze temperatures over several consecutive days. The following highlights were taken from the Auburn Weather Station for the period of record from 1905 to 2014.

Record daily extremes include:

- October – 26°F (1922)
- November – 20°F (1931)
- December – 16°F (1972)
- January – 17°F (1930)
- February – 21°F (1962)
- March – 20°F (1938)
- April – 25°F (1929)
- May – 25°F (1933)
- June – 30°F (1905)

Average number of days in a month falling below 32°F:

- October – 0.1 days
- November – 1.2 days
- December – 7.5 days
- January – 9.1 days
- February – 3.7 days
- March – 1.8 days
- April – .5 days

This equates to an average of 24 days annually below 32°F.

The City of Auburn has no other specific events or past occurrences.

Vulnerability to and Impacts from Severe Weather: Freeze and Snow

The City experiences temperatures below 32 degrees periodically during the winter months. Snow occurs only occasionally in the City; most winter precipitation falls as rain in the City. During severe winter weather in Auburn, including freezing temperatures, roads can become difficult to navigate, especially in some of the more hilled areas of the City.

Freeze can cause injury or loss of life to residents of the City. While it is rare for buildings to be affected directly by freeze, damages to pipes that feed building can be damaged during periods of extreme cold.

Freeze and snow can occasionally be accompanied by high winds, which can cause downed trees and power lines, power outages, accidents, and road closures. Impact to such cold temperatures has resulted in damage to such infrastructure as domestic water pipes, irrigation systems, unprotected fire protection systems (fire sprinklers) and surface icing on streets and walkways. Transportation networks, communications, and utilities infrastructure are some of the most vulnerable physical assets to impacts of severe winter weather in the County.

Future Development

Future development built to code should be able to withstand issues associated with extreme cold and freeze events. Pipes at risk of freezing should be buried or insulated from freeze as new facilities are improved or added. Critical facilities and infrastructure should consider backup power sources to protect against power outages. Vulnerability to extreme cold will increase as the average age of the population in the City shifts and homelessness becomes more of an issue.

Severe Weather: Heavy Rains and Storms

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Storms in the City occur annually and are generally characterized by heavy rain often accompanied by strong winds and sometimes lightning and hail. Approximately 10 percent of the thunderstorms that occur each year in the United States are classified as severe. A thunderstorm is classified as severe when it contains one or more of the following phenomena: hail that is three-quarters of an inch or greater, winds in excess of 50 knots (57.5 mph), or a tornado. Heavy precipitation in the City falls mainly in the fall, winter, and spring months. Wind often accompanies these storms; hail and lightning are rare in the City.

Location and Extent

Heavy rain events occur on a regional basis. Rains and storms can occur in any location of the City. All portions of the City are at risk to heavy rains. Most of the severe rains occur during the fall, winter, and spring months. There is no scale by which heavy rains and severe storms are measured. Magnitude of storms is measured often in rainfall and damages. The speed of onset of heavy rains can be short, but accurate weather prediction mechanisms often let the public know of upcoming events. Hail and lightning are rare in the City and Placer County. Duration of severe storms in California, Placer County, and the City can range from minutes to hours to days. Information on precipitation extremes can be found in Section 4.2.3 of the Base Plan.

Past Occurrences

According to historical hazard data, severe weather, including heavy rains and storms, is an annual occurrence in the City. This is the cause of many of the federal disaster declarations related to flooding, as shown in Table A-17 above. The City of Auburn has no other specific events or past occurrences.

Vulnerability to Heavy Rain and Storms

Heavy rain and severe storms are the most frequent type of severe weather occurrences in the City. These events can cause significant and localized flooding. Elongated events, or events that occur during times where the ground is already saturated can cause 1% and 0.2% annual chance flooding. Wind often accompanies these storms and has caused damage in the past. Hail and lightning are rare in the City, but also can cause damage, with lightning occasionally igniting wildfires.

Impacts

Actual damage associated with the effects of severe weather include impacts to property, critical facilities (such as utilities), and life safety. Heavy rains and storms often result in flooding creating significant issues. Roads can become impassable and ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Floodwaters and downed trees can break utilities and interrupt services.

Future Development

Building codes in the City ensure that new development is built to current building standards, which should reduce the risk to future development in the City from heavy rains and storms. New critical facilities such as communications towers and others should be built to withstand hail damage, lightning, and thunderstorm winds. With adherence to development standards, future losses to new development should be minimal.

Tree Mortality

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

One of the many vulnerabilities of drought in Placer County is the increased risk of widespread tree mortality events that pose hazards to people, homes, and community infrastructure, create a regional economic burden to mitigate, and contribute to future fuel loads in forests surrounding communities. During extended drought, tree mortality is driven by a build-up in endemic bark beetle populations and exacerbated by latent populations of a suite of native insects and disease. Non-native forest pests (insects and/or pathogens) can also contribute to tree mortality events.

Location and Extent

Onset of tree mortality events can be relatively fast; however conditions – such as high stand densities – that lead to tree mortality accumulate slowly over time. Duration of tree mortality is lengthy, as once the tree dies, it remains in place until removed by human activity, wildfire, or breakdown of the wood by nature. Many areas in Placer County have seen increases in tree mortality. The County has mapped these areas, and that map was shown in Section 4.3.19 of the Base Plan. Using a color legend, the map provided by CAL FIRE shows a scale of:

- Deep burgundy depicting areas with more than 40 dead trees per acre
- Red depicting 15 - 40 dead trees per acre
- Orange depicting 5 -15 dead trees per acre
- Yellow depicting 5 or less dead trees per acre

In the past decade, mortality has increased in the eastern portion of Placer County. Placer County is designated as Tier 2 High mortality hazard on the watershed scale along with numerous Tier 1 High hazard "hot spots". A map of these areas was shown in in Section 4.3.18 of the Base Plan.

Past Occurrences

There have been no state or federal disasters in the County related directly to tree mortality, though it has most likely contributed to the intensity of past wildfires in the County. Those events are shown in the Past Occurrences section of Wildfire below. No events of past tree mortality have affected the City.

Vulnerability to and Impacts from Tree Mortality

Dead trees are a hazard to the general public and forest visitors, but the risk of injury, death, property damage or infrastructure damages varies depending how the hazard interacts with potential targets. Dead trees within the wildland urban intermix or wildland urban interface or urban areas therefore pose a greater risk to due to their proximity to residents, businesses, and road, power, and communication infrastructure.

Dead trees may fall or deteriorate in their entirety or in part – either mechanism has the potential for injury, death, or inflicting severe damage to targets. As the time since tree mortality increases, so does the deterioration of wood and the potential for tree failure. During the 2012-2018 drought, the state of California Tree Mortality Task force designated multiple Tier 1 and Tier 2 High Hazard Zones where tree morality posed an elevated risk to human health, properties, and resource values. A number of Placer County areas were designated during this event and the majority of Placer County watersheds were designated as Tier 2 high hazard zones because of the significant levels of tree mortality. These areas were shown on Section 4.3.18 of the Base Plan.

Placer County is unique in that many residential and business areas of the community are in the wildland urban interface/intermix with the forest. Trees in these interface/intermix areas are particularly vulnerable to insect and/or drought driven mortality because of the additional stressors that urban environments impose on trees (i.e. soil compaction, altered hydrology, physical damage, heat islands etc.). This exacerbates the occurrence of tree mortality within the populated settings of the County.

Future Development

Additional growth and development within moderate or higher fire hazard severity zones in the City would place additional values at risk to wildfire. City building codes are in effect and should continue to be updated as appropriate to reduce this risk.

Wildfire

Likelihood of Future Occurrence–Likely
Vulnerability–High

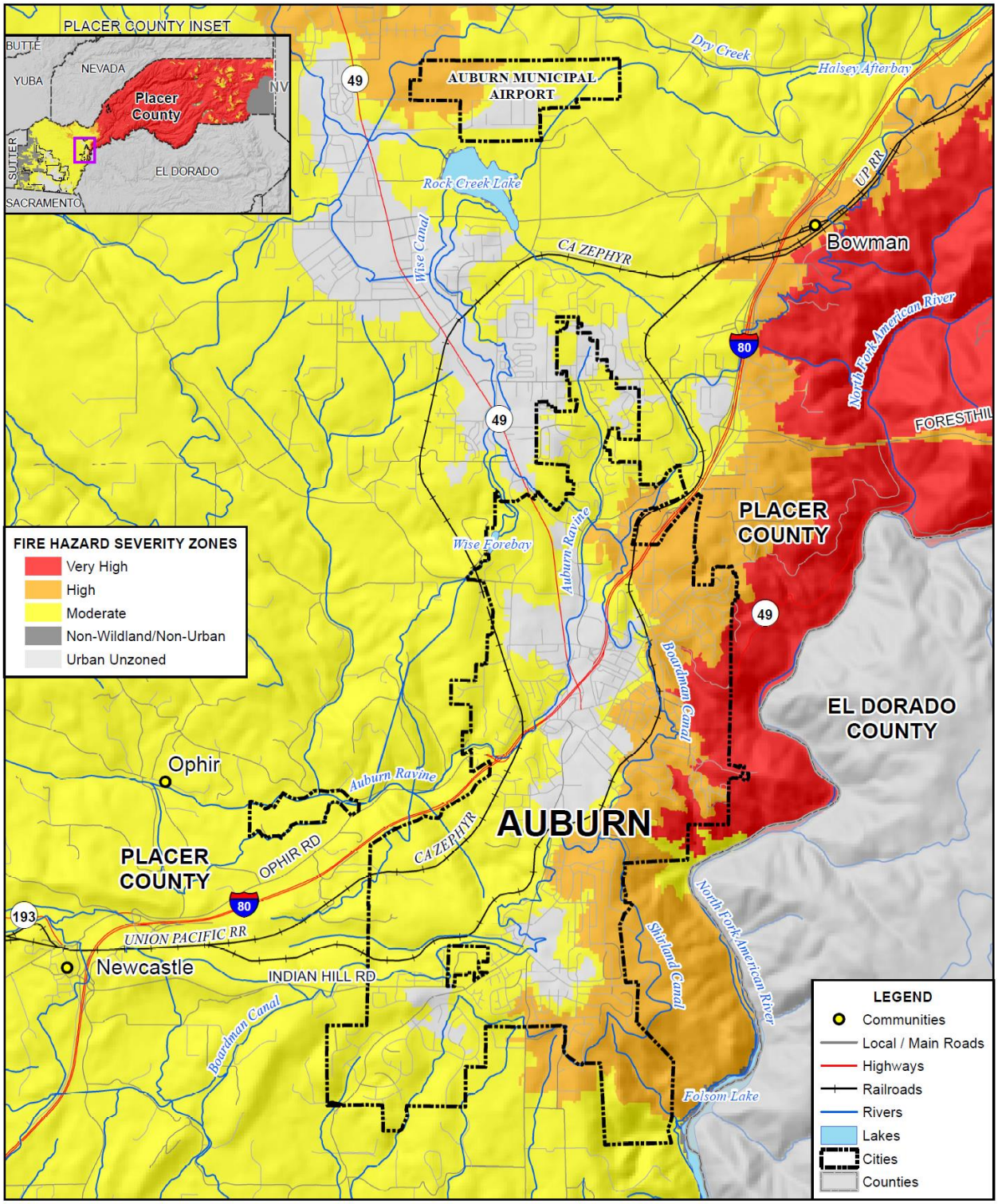
Hazard Profile and Problem Description

Wildland fire and the risk of a conflagration is an ongoing concern for the City of Auburn. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire control practices have affected the natural cycle of the ecosystem. Wildland fires affect grass, forest, and brushlands, as well as any structures located within them. Where there is human access to wildland areas the risk of fire increases due to a greater chance for human carelessness and historical fire management practices. Historically, the fire season extends from early spring through late fall of each year during the hotter, dryer months; however, in recent years, the risk of wildfire has become a year around concern. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. These high winds can result in red flag days, and can result in PSPS events in the City. While wildfire risk has predominantly been associated with more remote forested areas and wildland urban interface (WUI) areas, significant wildfires can also occur in more populated, urban areas.

Location and Extent

Wildfire can affect all areas of the City. CAL FIRE has estimated that the risk varies across the City and has created maps showing risk variance. Following the methodology described in Section 4.3.19 of the Base Plan, wildfire maps for the City of Auburn were created. Figure A-9 shows the CAL FIRE FHSZ in the City. As shown on the maps, fire hazard severity zones within the City range from Urban Unzoned to very high.

Figure A-9 City of Auburn – Fire Hazard Severity Zones



FOSTER MORRISON CONSULTING

COUNTY OF Placer

Data Source: Cal-Fire (Draft 09/2007 - c31fhszl06_1, Adopted 11/2007 - fhszs06_3_31, Recommended 12/2008 - c31fhszl06_3), Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Wildfires tend to be measured in structure damages, injuries, and loss of life as well as on acres burned. Fires can have a quick speed of onset, especially during periods of drought or during hot dry summer months. Fires can burn for a short period of time, or may have durations lasting for a week or more. Geographical FHSZ extent from CAL FIRE is shown in Table A-27.

Table A-27 City of Auburn – Geographical FHSZ Extents

Fire Hazard Severity Zone	Total Acres	% of Total Acres	Improved Acres	% of Total Improved Acres	Unimproved Acres	% of Total Unimproved Acres
Very High	214	4.7%	38	2.0%	176	6.8%
High	1,152	25.5%	570	29.6%	583	22.5%
Moderate	0	0.00%	0	0.00%	0	0.00%
Non-Wildland/non-Urban	2,406	53.3%	967	50.3%	1,439	55.4%
Urban Unzoned	745	16.5%	347	18.0%	398	15.3%
Total	**4,517**	**100.0%**	**1,922**	**100.0%**	**2,596**	**100.0%**

Source: CAL FIRE

Past Occurrences

There has been six state and five federal disaster declaration due to wildfire, as shown in Table A-28.

Table A-28 Placer County – State and Federal Wildfire Disaster Declarations 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Fire	5	1961, 1965, 1973, 1987, 2010	6	2002, 2004, 2008, 2009, 2014 (twice)

Source: Cal OES, FEMA

Fire Protection

Fire protection in the planning area is provided by the City of Auburn. The City of Auburn Fire Department participates in the Western Placer County Fire Chief's Association Cooperative Response Agreement, where fire agencies have agreed to automatically support each other on incidents using the closest available resource concept. These agencies include the Placer County Fire Department, CAL FIRE, Newcastle Fire District, and Placer Hills Fire District. In addition, a Mutual Threat Zone has been established for wildland fires, which means that any wildland fire within or adjacent to the City of Auburn will initiate a full response from the City and CAL FIRE upon initial dispatch. Due to the risk associated with wildfire, the City of Auburn has a contractual agreement with CAL FIRE for additional wildfire resources, which include firefighting aircraft, hand crews, bulldozers, chief officers, and type three engines. Structural and wildfire protection outside the City limits is provided by the individual fire agencies or by CAL FIRE.

The Fire Department provides fire protection, emergency medical services, and disaster preparedness and response. Auburn has three fire stations at the following locations:

- Station No. 1 – Martin Park Fire Station, 485 High Street
- Station No. 2 – Gietzen Fire Station, 226 Sacramento Street
- Station No. 3 – Maidu Fire Station, 901 Auburn Folsom Road

Fire Responsibility Areas

In and around Auburn, different organizations all have some responsibility for wildfire protection in different areas. These responsibility areas are codified under state law into three categories: local responsibility areas (LRAs), state responsibility areas (SRAs), and federal responsibility areas (FRAs).

- LRAs are areas protected by local agencies, including city and county fire departments, local fire protection districts, and the California Department of Forestry and Fire Protection (CAL FIRE) when under contract to local governments. Most land in the City of Auburn is an LRA, except for open space areas near the American River that are part of FRAs. North Auburn is also an LRA.
- SRAs are areas where CAL FIRE has responsibility for wildfire protection. SRAs are generally unincorporated areas that are not federally owned, are undeveloped, and are covered by wildland vegetation or rangeland. Most of the unincorporated land around Auburn, excluding the developed areas of North Auburn, is an SRA.
- FRAs are areas that are managed by a federal agency, including the U.S. Forest Service, the U.S. Fish and Wildlife Service, and the Bureau of Land Management. The federally-owned open space along the American River, including land within the city limits of Auburn, is an FRA.

Past Fire Events

There is no record of historical fires within the Auburn city limits. However, some historical fires have occurred near the City. Notably, in 2009, the 49 Fire burned 343 acres near Highway 49 and Rock Creek Road near Auburn. Following is a list of historical fires that have occurred around the City dating back to 1975.

1975/1977 Sawmill Fire – The Sawmill Fire and another fire occurred in the area of Cape Horn and the Alpine Meadows subdivision, just three miles northeast of Colfax.

1990 Placer County Fire – This fire burned approximately 300 acres of grass, brush, and oaks in the area of Placer Canyon. The fire resulted in evacuations and destroyed several outbuildings.

2000 Heather Glen Fire – The Heather Glen Fire, caused by sparks from a lost trailer wheel along Interstate (I-) 80, destroyed one home and forced a neighborhood evacuation in Applegate. While only 10 acres in size, this fire resulted in $350,000 in damage.

2000 American Fire – The American Fire occurred below the City of Auburn in what is now known as "China Bar" on the American River. The fire consumed approximately 200 acres and posed a threat to development in the southern portion of Auburn. No structure losses or structure damages were reported in this incident.

August 12-20, 2001, Narrow Gauge Fire – This fire near Colfax burned 30 acres and forced closure of I-80 for about an hour due to dense smoke. This fire, blamed on a catalytic converter, was quickly contained as California Department of Forestry air tankers were already in the area and able to respond quickly.

2002 Sierra Fire – Within the communities of Loomis and Granite Bay, approximately 595 acres of grass, brush, and oaks burned in the area of I-80, Barton Road, Wells Avenue, Morgan Place, Indian Springs, and Cavitt-Stallman Road. The fire destroyed six structures and threatened two schools.

2004 Stevens Fire – The Stevens Fire, located at Cape Horn/Iowa Hill near Colfax, was 100 percent contained at 934 acres.

September 2006 Ralston Fire – The Ralston Fire was a large wildfire in the area of the North Fork of the Middle Fork of the American River. Approximately 8,400 acres burned.

June-July 2008 American River Complex Fire – Several large wildfires resulted from a system of major lightning storms that impacted the entire Northern California region. In Placer County, approximately 10 wildfires resulted from the lightning storm, and four grew to major fires, which later were collectively labeled the American River Complex (ARC) fires. The ARC fires were in Tahoe National Forest in the North Fork American River watershed northeast of Foresthill, California. The fires consumed approximately 20,500 acres of forest land.

September 2008 Gladding Fire – The wind-driven fire started northeast of Lincoln and consumed approximately 960 acres, 6 residences, and 10 outbuildings.

September 2009 49 Fire – The wind-driven fire started about 2 pm near Highway 49 and Rock Creek Road near Auburn. The fire burned 343 acres before being contained. Sixty-three residences and three commercial buildings were destroyed, and another three residences and six commercial properties were severely damaged. The damages were concentrated in neighborhoods east and south of Dry Creek Road. Three people were injured in the wildfire. Most notable about this fire was its location in a well-developed area and the speed at which the fire consumed nearby structures.

2012 Robbers Fire – The Robbers Fire was a human-caused fire that was ignited on July 11, 2012. The fire was located northwest of Foresthill, near Shirttail Canyon Road and Yankee Jims Road. The fire burned 2,650 acres, destroyed one residence and four outbuildings, and caused 12 injuries. 912 fire personnel were involved in the firefighting efforts. A 28-year-old Sacramento man was charged with unlawfully causing a fire. Firefighting costs and damages were estimated at $12.4 million.

2013 American Fire – On August 10, 2013, the American Fire was ignited near Deadwood Ridge, northeast of Foresthill. Located in Tahoe National Forest, the American Fire burned in steep and hazardous terrain as well as timber fuels that had not burned in several decades. Consumption of heavy fuels contributed to heavy smoke in the surrounding areas. Approximately 540 Forest Service and Cal Fire personnel were assigned to the fire, which burned 27,440 acres.

2014 King Fire – Hazard Mitigation Planning Committee representatives from Placer Hills and Foresthill Fire Protection Districts noted damaging wildfires that occurred in the Foresthill and Applegate areas during the winter of 2014. Specific information on this can be found in their respective annexes to this plan. The

fire started in El Dorado County and crossed into Placer County. An estimated 97,717 acres burned, 12 residences were destroyed, along with 68 other minor structures. Twelve injuries occurred that can be attributed to the fire.

2014 Applegate Fire – A fire occurred on the east side of I-80 in the Applegate area of Placer County. The fire started on October 8, 2014, and its cause was unknown. The fire burned 459 acres before containment. Six residences and four outbuildings were destroyed. Two injuries were reported; however, no deaths were reported.

Since 2016 - wildfires and urban interface fires have occurred within or encroached into the City, especially in the heavily fueled areas to the east and south. In the last few years the City of Auburn has experienced multiple wildfires that threatened property, critical facilities, and life safety. Following is a list of noteworthy wildfires that occurred in or impinged the city limits.

2017 Stagecoach Fire- July 20th, 2017 a fire broke out on the Upper Stagecoach Trail in the Auburn State Recreation Area, between the City of Auburn and the American River. The fire burned approximately 10 acres and caused evacuations in the Auburn City limits.

2020 Lincoln Way Fire- August 17th, 2020 a vegetation fire started in the area of Lincoln Way and eastbound I-80 causing evacuations of the immediate area. Fire was contained just short of the Auburn Woods Condominiums. The fire totaled 2.2 acres with no structures lost or damaged.

2020 Perry Ranch Fire- August 26th, 2020 a vegetation fire started in the area of Perry Ranch Road and Rogers Lane. The fire was immediately threating multiple homes as crews arrived at scene. The fire totaled 8 acres with no structures lost.

Vulnerability to and Impacts from Wildfire

The wildfire hazard is one of the highest priority hazards in the County and City, and is the hazard with the greatest potential for catastrophic loss. High fuel loads in the County and Cities, along with geographical and topographical features, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and sometimes catastrophic fires. The more urbanized areas within the County are not immune from fire. The dry vegetation and hot and sometimes windy weather, combined with continued growth in the WUI areas, results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the County and City, especially in these interface areas, the risk and vulnerability to wildfires will likely increase.

Auburn is not immune to numerous types of grass and brush fires and any one of them may accelerate into an urban interface wildfire. Such a situation could lead to evacuation of large portions of the population and the potential for significant loss of personal property, structures, and rangeland. The natural fuels available in or near the City vary greatly in the rate and intensity of burning. Fires in heavy brush and stands of trees burn with great intensity but more slowly than in dry grass and leaves. Dense fuels will propagate fire better than sparse fuels.

According to the Safety Element of Auburn's General Plan, wildland and urban interface fires have occurred close to or encroached into the City, especially in the heavily fueled areas to the east and south. Urban structural fires have been due largely to human accidents, with the older buildings in the City business districts the most vulnerable.

Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and timber; and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the City. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact the City by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in the City; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damages and casualties arising from wildland-urban interface fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat of wildfire, combined with the potential for high winds, heat, and low humidity, has caused PG&E to initiate a PSPS which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

Assets at Risk

Based on the vulnerability of Auburn to the wildfire hazard, the sections that follow describes significant assets at risk in the City of Auburn. This section includes the values at risk, population at risk, and critical facilities at risk.

Values at Risk

GIS was used to determine the possible impacts of wildfire within the City of Auburn. The methodology described in Section 4.3.19 of the Base Plan was followed in determining structures and values at risk in fire hazard severity zones. Summary analysis results for Auburn are shown in Table A-29, which summarizes total parcel counts, improved parcel counts and their structure values by fire hazard severity zone.

Table A-29 City of Auburn – Count and Value of Parcels by Fire Hazard Severity Zone

Fire Hazard Severity Zone	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Very High	110	44	$6,991,388	$12,939,355	$6,469,675	$26,400,418
High	2,248	1,840	$191,122,318	$434,796,230	$224,123,577	$850,042,125
Moderate	2,897	2,340	$310,739,956	$750,722,502	$425,810,068	$1,487,272,526

Fire Hazard Severity Zone	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Urban Unzoned	1,235	956	$139,643,471	$350,536,295	$251,919,851	$742,099,617
Auburn Total	**6,490**	**5,180**	**$648,497,133**	**$1,548,994,382**	**$908,323,171**	**$3,105,814,686**

Source: Placer County 2020 Parcel/Assessor's Data, CAL FIRE

Table A-30 breaks out the Table A-29 by adding the property use details by fire hazard severity zone for the City.

Table A-30 City of Auburn – Count and Value of Parcels by Fire Hazard Severity Zone and Property Use

Fire Hazard Severity Zone / Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Very High						
Agricultural	0	0	$0	$0	$0	$0
Commercial	0	0	$0	$0	$0	$0
Industrial	0	0	$0	$0	$0	$0
Institutional	0	0	$0	$0	$0	$0
Miscellaneous	56	0	$955,855	$0	$0	$955,855
Natural / Open Space	8	0	$0	$0	$0	$0
Residential	46	44	$6,035,533	$12,939,355	$6,469,675	$25,444,563
Very High Total	**110**	**44**	**$6,991,388**	**$12,939,355**	**$6,469,675**	**$26,400,418**
High						
Agricultural	0	0	$0	$0	$0	$0
Commercial	35	16	$4,358,159	$5,509,361	$5,509,361	$15,376,881
Industrial	16	10	$1,959,778	$2,098,691	$3,148,036	$7,206,505
Institutional	16	4	$400,737	$3,649,909	$3,649,909	$7,700,555
Miscellaneous	321	0	$5,219,590			$5,219,590
Natural / Open Space	30	4	$42,483	$94,315	$94,315	$231,113
Residential	1,830	1,806	$179,141,571	$423,443,954	$211,721,956	$814,307,481
High Total	**2,248**	**1,840**	**$191,122,318**	**$434,796,230**	**$224,123,577**	**$850,042,125**
Moderate	0	0				
Agricultural	3	2	$57,153	$25,949	$25,949	$109,051
Commercial	170	108	$23,834,567	$71,431,161	$71,431,161	$166,696,889
Industrial	22	11	$2,353,511	$5,411,920	$8,117,880	$15,883,311
Institutional	26	8	$3,294,068	$17,423,419	$17,423,419	$38,140,906
Miscellaneous	319	3	$9,635,231	$1,067,391	$1,067,391	$11,770,013

Fire Hazard Severity Zone / Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Natural / Open Space	78	3	$112,499	$125,867	$125,867	$364,233
Residential	2,279	2,205	$271,452,927	$655,236,795	$327,618,401	$1,254,308,123
Moderate Total	**2,897**	**2,340**	**$310,739,956**	**$750,722,502**	**$425,810,068**	**$1,487,272,526**
Urban Unzoned						
Agricultural	1	1	$10,126	$19,000	$19,000	$48,126
Commercial	275	220	$53,360,780	$120,848,317	$120,848,317	$295,057,414
Industrial	9	5	$1,393,205	$4,251,741	$6,377,612	$12,022,558
Institutional	44	13	$2,796,896	$22,262,411	$22,262,411	$47,321,718
Miscellaneous	174	6	$928,791	$1,116,346	$1,116,346	$3,161,483
Natural / Open Space	18	3	$210,320	$553,863	$553,863	$1,318,046
Residential	714	708	$80,943,353	$201,484,617	$100,742,302	$383,170,272
Urban Unzoned Total	**1,235**	**956**	**$139,643,471**	**$350,536,295**	**$251,919,851**	**$742,099,617**
Auburn Total	**6,490**	**5,180**	**$648,497,133**	**$1,548,994,382**	**$908,323,171**	**$3,105,814,686**

Source: Placer County 2020 Parcel/Assessor's Data, CAL FIRE

Population at Risk

The FHSZ dataset was overlayed on the parcel layer. Those residential parcel centroids that intersect the FHSZs were counted and multiplied by the 2010 Census Bureau average household factors for the City of Auburn – 2.45. According to this analysis, there is a total population of 8,880 residents of Auburn at risk to moderate or higher FHSZs. This is shown in Table A-31.

Table A-31 City of Auburn – Count of Improved Residential Parcels and Population by Fire Hazard Severity Zone

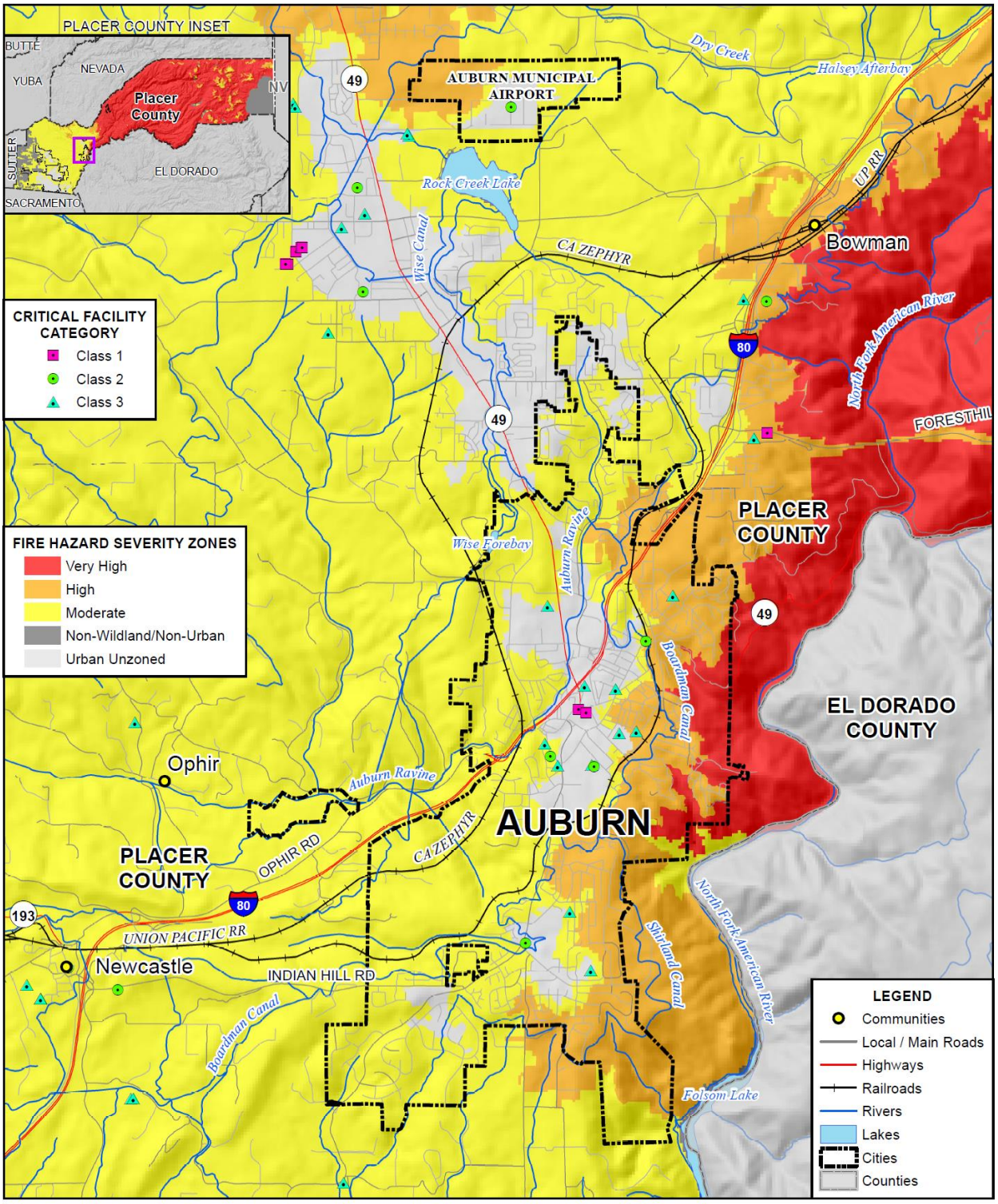
Jurisdiction	Very High		High		Moderate	
	Improved Residential Parcels	Population at Risk	Improved Residential Parcels	Population at Risk	Improved Residential Parcels	Population at Risk
Auburn	44	96	1,806	3,955	2,205	4,829

Source: Placer County 2020 Parcel/Assessor's Data, CAL FIRE

Critical Facilities at Risk

An analysis was performed on the critical facility inventory in Auburn in identified FHSZs. Critical facilities in a FHSZ in the City of Auburn are shown in Figure A-10 and detailed in Table A-32. Details of critical facility definition, type, name and address and jurisdiction by fire hazard severity zone are listed in Appendix F.

Figure A-10 City of Auburn – Critical Facilities in Fire Hazard Severity Zones



Data Source: Cal-Fire (Draft 09/2007 - c31fhszl06_1, Adopted 11/2007 - fhszs06_3_31, Recommended 12/2008 - c31fhszl06_3), Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table A-32 City of Auburn – Critical Facilities by Fire Hazard Severity Zone

Fire Hazard Severity Zone	Critical Facility Class	Critical Facility Type	Facility Count
High	Class 3	School	2
High Total			**2**
Moderate	Class 2	Fire Station	2
	Class 3	Hall	3
Moderate Total			**5**
Urban Unzoned	Class 1	Dispatch Center	1
		Emergency Operation Center	1
	Class 2	Airport	1
		Fire Station	1
		National/Coast Guard	1
		Police Station	1
	Class 3	Fairground	1
		Hall	2
		School	3
Urban Unzoned Total			**12**
Auburn Total			**19**

Source: CAL FIRE, Placer County

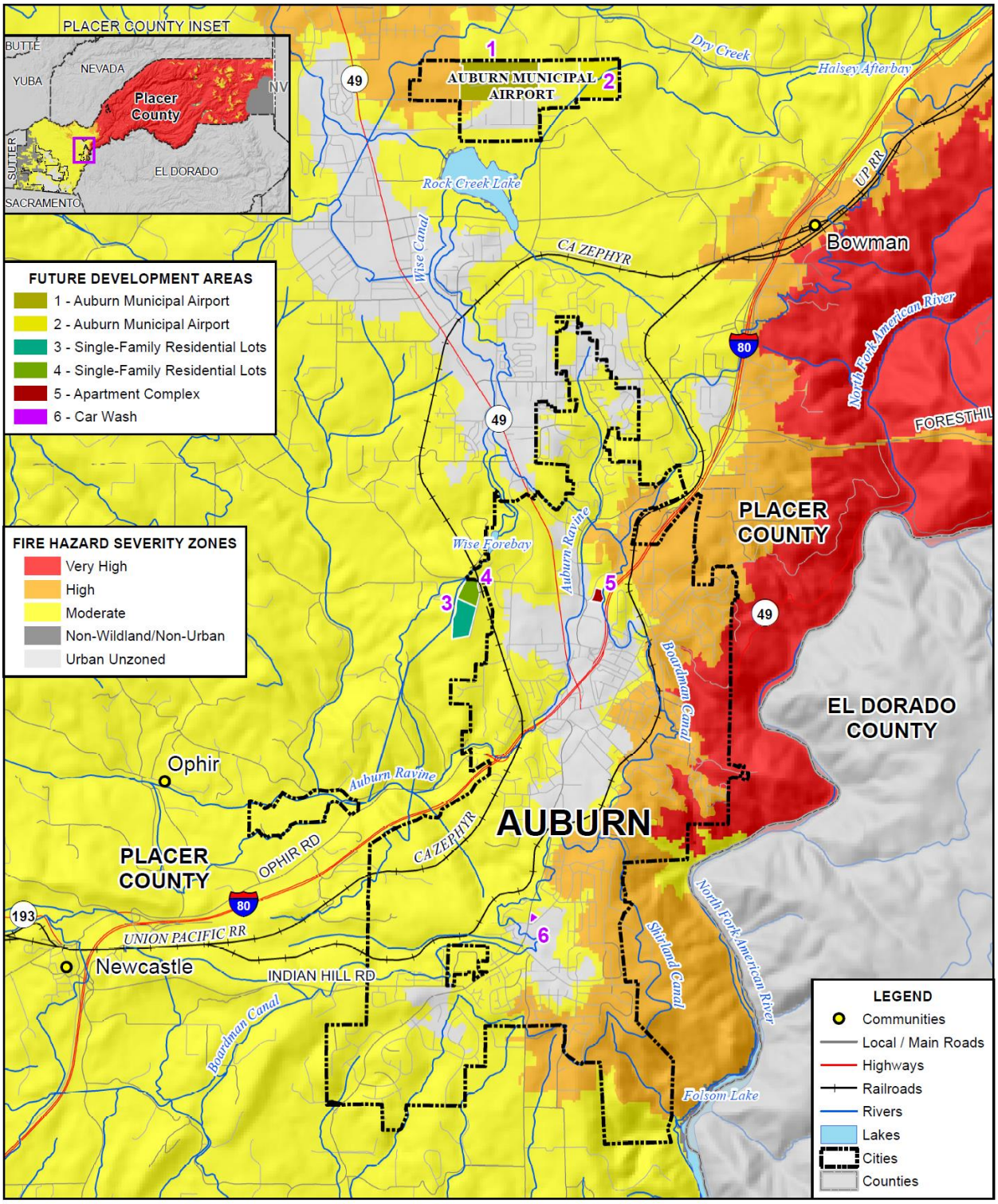
Future Development

Additional growth and development within moderate or higher fire hazard severity zones in the City would place additional values at risk to wildfire. City building codes are in effect and should continue to be updated as appropriate to reduce this risk.

GIS Analysis

The City provided future development areas were used as the basis for the inventory of future development areas for the City. Using the GIS parcel spatial file for each of these areas, the areas and parcels associated with future development projects for which the analysis was to be performed were identified. Utilizing the future development project spatial layer, the parcel centroid data was intersected to determine the parcel counts within each area. Figure A-11 shows the locations of future development areas the City is planning to develop on the FHSZs. Table A-32 shows the parcels and acreages of each future development area in the City in each FHSZ.

Figure A-11 City of Auburn – Future Development in FHSZs



FOSTER MORRISON CONSULTING

COUNTY OF Placer

Data Source: Cal-Fire (Draft 09/2007 - c31fhszl06_1, Adopted 11/2007 - fhszs06_3_31, Recommended 12/2008 - c31fhszl06_3), Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table A-33 City of Auburn – Future Development in FHSZs

Fire Hazard Severity Zone / Future Development / Map Number / Description / APN	Total Parcel Count	Improved Parcel Count	Total Acres
Moderate			
Apartment Complex			
7-Unit Apartment Complex at 655 Mikkelsen Drive			
001-020-055-000	1	1	3.1
Apartment Complex Total	**1**	**1**	**3.1**
Auburn Municipal Airport			
East Hangar Area Access and GA Terminal Building			
052-190-018-000	1		40.0
Auburn Municipal Airport Total	**1**		**40.0**
Single-Family Residential Lots			
Single-Family Residential Lots			
038-300-017-000	1	1	17.2
975 and 1055 Collins Drive			
038-300-019-000	1	1	10.4
Single-Family Residential Lots Total	**2**	**2**	**27.6**
Moderate Total	**4**	**3**	**70.6**
Urban Unzoned			
Auburn Municipal Airport			
Helicopter Parking Areas			
052-010-028-000	1		78.4
Auburn Municipal Airport Total	**1**		**78.4**
Car Wash			
055-150-044-000	1	1	1.3
Car Wash Total	**1**	**1**	**1.3**
Urban Unzoned Total	**2**	**1**	**79.7**
Grand Total	**6**	**4**	**150.3**

Source: CAL FIRE, City of Auburn GIS

A.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

A.6.1. Regulatory Mitigation Capabilities

Table A-34 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the City of Auburn.

Table A-34 City of Auburn Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan/General Plan	Y	
Capital Improvements Plan	Y	
Economic Development Plan	Y	
Local Emergency Operations Plan	Y	
Continuity of Operations Plan		
Transportation Plan		
Stormwater Management Plan/Program	Y	
Engineering Studies for Streams		
Community Wildfire Protection Plan	Y	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Y	Included in EOP
Building Code, Permitting, and Inspections	**Y/N**	**Are codes adequately enforced?**
Building Code	Y	Version/Year: 2013 CBC
Building Code Effectiveness Grading Schedule (BCEGS) Score	N	Score: N/A
Fire department ISO rating:	Y	Rating: 3
Site plan review requirements	Y	Performed by each City department
Land Use Planning and Ordinances	**Y/N**	**Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?**
Zoning ordinance	Y	
Subdivision ordinance	Y	
Floodplain ordinance	Y	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Y	Fire Safe Standards in the WUI (Bates Bill, AB 337). Includes Class A Roofing Standards
Flood insurance rate maps	Y	
Elevation Certificates	Y	Integrated with GIS
Acquisition of land for open space and public recreation uses		

Erosion or sediment control program	Y
Other	
How can these capabilities be expanded and improved to reduce risk?	
The City shall continue to work to regularly to update any City strategic plans to ensure that Auburn maintains relative mitigation capabilities. Identifying the necessity to develop Emergency Preparedness Plans, including confirming evacuation and emergency vehicle access, land management, visible home and street signage, community training and education, and defensive infrastructure and resource needs in the very high fire hazard severity zones, flood zones, and landslide-prone areas.	

Source: City of Auburn

The City of Auburn General Plan Program, 1993

The City of Auburn General Plan Program serves as the blueprint for future growth and development and provides comprehensive planning for the future. It encompasses what the City is now, and what it intends to be, and provides the overall framework of how to achieve this future condition (see the discussion in Section 4.3.1 Growth and Development Trends).

The General Plan includes a Safety Element that focuses on safety issues to be considered in planning for the present and future development of the Auburn Planning Area. Identified hazards include wildfire, geologic/seismic, flooding, and other natural and man-made hazards. Mitigation-related goals are presented below.

Safety Element Goals	
Goal 1	Protect the citizens and visitors of the Auburn area from loss of life while protecting property and watershed resources from unwanted fires through preplanning, education, fire defense improvements, and fire suppression.
Goal 2	Protect the lives and property of the citizens of the Auburn area from unacceptable risk resulting from flood hazards.
Goal 3	Minimize hazards to public health, safety, and welfare resulting from natural and man-made hazards.
Goal 4	Protect all residents from hazardous materials and the hazards associated with transport of such materials.
Goal 5	Maintain and enhance City emergency services.

City of Auburn Emergency Operations Plan

The City of Auburn Emergency Operations Plan (EOP) addresses the planned response for the City of Auburn to emergencies associated with disasters, technological incidents, or other dangerous conditions created by either man or nature. It provides an overview of operational concepts, identifies components of the City emergency management organization, and describes the overall responsibilities of local, state, and federal entities. The Emergency Operations Plan includes such plans as: Terrorism Contingency Plan, Airport Response Plan, Hazardous Materials Response Plan, Wildfire Response Plan, Community Wildfire Protection Plan, Greater Auburn Area Fire Safe Council Strategic Fire Safe Plan, I-80 Transportation Infrastructure Contingency Plan, Heat Emergency Plan, Wastewater Treatment Plant Emergency Response Plan, and Stormwater Pollution Prevention Plan (3 separate plans).

American River Canyon Shaded Fuel Break (2021)

The City of Auburn has been identified as a "Community at Risk" in the National Fire Plan. The community is considered a risk due to the proximity of residential, commercial, and recreational development within the Wildland Urban Interface and the designated Very High and High Fire Hazard Severity Zones.

This document is established as a collaborative guide in an effort to reduce damage caused by wildfire by identifying public agency resources allocated to enhancement and maintenance of the American River Canyon Shaded Fuel Break; a natural vegetation fuels reduction project. The American River Canyon Shaded Fuel Break is intended to provide a means of protection to the Auburn community from the disaster of wildfire, preserve our natural and cultural resources, enhance our watershed, support wildlife habitat, and maintain recreational opportunities to the pristine American River, Auburn State Recreation Area, and U.S. Bureau of Reclamation lands in and around the City of Auburn.

This plan is a collaborative effort between the U.S. Bureau of Reclamation, California State Parks, City of Auburn Fire Department, and Placer Land Trust holdings within the project area, to identify limited agency resources and priority areas to be enhanced and maintained on the American River Canyon Shaded Fuel Break. This plan is in addition to and supports the "Project Canyon Safe" program as developed by the Greater Auburn Area Fire Safe Council.

OTHER PLANS RELATED TO MITIGATION

A.6.2. Administrative/Technical Mitigation Capabilities

Table A-35 identifies the City department(s) responsible for activities related to mitigation and loss prevention in Auburn.

Table A-35 City of Auburn's Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission	Y	
Mitigation Planning Committee	N	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	N	Auburn relies on grant funding projects
Mutual aid agreements	Y	coordination is effective
Other		
Staff	**Y/N FT/PT**	**Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?**
Chief Building Official	Y FT	Staff is adequate to enforce regulations
Floodplain Administrator	Y FT	

Emergency Manager	Y FT	
Community Planner	Y FT	
Civil Engineer	Y FT	
GIS Coordinator	N	
Other		
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)	Y	Police Dispatch and Administrative Services, ESC
Hazard data and information	Y	
Grant writing	Y	
Hazus analysis	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
Ensure City facilities are capable of providing and sustaining essential services during times of emergencies and disasters. The City will continue to pursue grant opportunities to bluster staff and programs in areas deemed as inadequate.		

Source: City of Auburn

A.6.3. Fiscal Mitigation Capabilities

Table A-36 identifies financial tools or resources that the City could potentially use to help fund mitigation activities.

Table A-36 City of Auburn's Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Y	
Authority to levy taxes for specific purposes	Y	
Fees for water, sewer, gas, or electric services	Y	
Impact fees for new development	Y	
Storm water utility fee		
Incur debt through general obligation bonds and/or special tax bonds	Y	
Incur debt through private activities	Y	
Community Development Block Grant	Y	
Other federal funding programs		
State funding programs		

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Other		
How can these capabilities be expanded and improved to reduce risk?		
Projects within the City often require grant funding to reach completion. Having dedicated staff to continually pursue funding opportunities for hazard mitigation would greatly improve on the City's ability to obtain grants and accomplish projects.		

Source: City of Auburn

A.6.4. Mitigation Education, Outreach, and Partnerships

Table A-37 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

Table A-37 City of Auburn's Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	Numerous service clubs, Police volunteers, fire department volunteers, neighborhood watch
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	
Natural disaster or safety related school programs	Y	
StormReady certification	N	
Firewise Communities certification	Y	
Public-private partnership initiatives addressing disaster-related issues	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
The City upholds many active partnerships and participates in a variety of strategic plans, educational and outreach programs addressing a variety of natural and man-made disasters. Development of the public-private partnerships would widen the City's reach of education programs for disaster-related issue.		

Source: City of Auburn

A.6.5. Other Mitigation Efforts

The City has many other completed or ongoing mitigation projects/efforts that include the following:

- The "Shaded Fuel Break" fuel modification project is implemented and continually evaluated as described in the 2015 Shaded Fuel Break Project, American River Canyon Implementation Program.

This program continues as of the writing of this Plan Update. The 2020/2021 Recommended Work Plan is the most recent version. Completed projects under this plan include the projects in Figure A-12.

Figure A-12 City of Auburn – Completed Fuels Projects near American River Canyon

Oversight Agency	Federal Land State Land Private Land	Area	Acres	Cost	Funding Source	Year
AFD	Federal	Robie to Overlook	40	$288,206	SNC #567	2013/2014
AFD	Private	Marina	5	$21,000	MFP	2013/2014
PRCD	Federal State Private	ASFB	250	$1.99M	CAL FIRE Grant #17-FP-NEU-0090	2019/2020
AFD	Private	Tamaroo	12.2	$52,000	MFP	2014, 2016, 2019
AFD	Private	Blackstone	9	$62,200	MFP	2015, 2019
AFD	Private	Eagles Nest	9	$49,500	MFP	2020
AFD	Federal Private	Olive Orchard/Aeolia	24	$119,500	MFP, HOA, PLT	2014-2017, 2020
AFD	Private	Jordan Lane	8	$40,000	MFP	2017
BOR	Federal	Jordan Lane	10	$50,000	BOR	2017
AFD	Private	Jordan Lane	11	$51,333	CA FSC	2020
BOR	Federal	Aeolia Heights	4	$20,000	BOR	2014, 2017
AFD	Federal	Aeolia Heights	2	$10,000	Auburn FSC	2020
AFD	Private	Gold Street	3	$15,000	MFP	2017
AFD	Private	Virginia/Gold	20	$92,437	MFP, CA FSC	2018-2020
AFD	Private	Riverview	14	$24,000	HOA, CA FSC	2014, 2020

AFD: Auburn Fire Department
BOR: US Bureau of Reclamation
PRCD: Placer Resource Conservation District
PLT: Placer Land Trust
SNC: Sierra Nevada Conservancy
MFP: Placer County Middle Fork Project Fuels Reduction Program
FSC: California Fire Safe Council
HOA: Home Owners Association

- "Fire Plans for Development" are required for all new development within the City of Auburn. Such fire plans address the mitigation measures implemented to reduce potential damage and threat of wildfire. In addition, the fire plan describes the long term application and implementation of such measures that include responsibilities, funding, and evaluation.

- Annually, physical inspections are made by fire department personnel for defensible space and fuel modification on residences throughout the City of Auburn. Specific areas are concentrated on each year.
- Development and implementation of the Stormwater Treatment Plan continues.
- The Greater Auburn Area Fire Safe Council was enhanced/expanded to include surrounding fire districts and areas of wildfire concern.
- The Greater Auburn Area Fire Safe Council was instrumental in developing the Greater Auburn Area Fire Safe Plan.
- The Greater Auburn Area Fire Safe Council participated in the development of the Community Wildfire Protection Plan.
- The City of Auburn is signatory and participates in the Western Placer County Fire Chief's Automatic Response Agreement and Operations Plan for Placer County.
- Auburn Fire Department with several community stakeholders created the Wildfire Strategic Plan.
- Auburn Fire and CAL FIRE agreed to designate the City of Auburn as a mutual threat zone and will approve a standard CAL FIRE response to all reported vegetation fires and other fire types that pose a threat to the vegetation and surrounding communities.
- Several existing "open space" areas within the City of Auburn have been "fire planned" that includes fuel modification projects to reduce the exposure of wildfire.
- Prior to the storm season, physical inspections of waterways and the storm drain system are completed and then cleaned and cleared as necessary
- Prior to a storm warning, storm drains and waterways are inspected and cleaned as necessary
- Prior to a storm warning, Public Works crews prepare sandbags in preparation for possible flooding activities

A.7 Mitigation Strategy

A.7.1. Mitigation Goals and Objectives

The City of Auburn adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

A.7.2. NFIP Mitigation Strategy

The City of Auburn joined the National Flood Insurance Program (NFIP) on December 23,1981. As a participant of the NFIP, the City of Auburn has administered floodplain management regulations that meet the minimum requirements of the NFIP. The management program objective is to protect people and property within the City. The City of Auburn will continue to comply with the requirements of the NFIP in the future.

In addition, the City of Auburn actively participates with Placer County to address local NFIP issues through a regional approach. Many of the program activities are the same for the City of Auburn as for Placer County since participation at the County level includes all local jurisdictions.

The City's regulatory activities apply to existing and new development areas of the City; implementing flood protection measures for existing structures and new development, and maintaining drainage systems. The goal of the program is to enhance public safety, and reduce impacts and losses while protecting the environment. The City's Municipal Code has a Flood Damage Prevention Section under the Zoning

Ordinance that regulates construction in the floodplain. The City intends to continue to implement the ordinance and participate at the regional level with Placer County implementing appropriate measures to mitigate exposure and damages within designated flood prone areas.

The NFIP's Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS which are to reduce flood losses, facilitate accurate insurance rating, and promote the awareness of flood insurance. The City of Auburn is not a current participant in the CRS program.

More information about the floodplain administration in the City of Auburn can be found in Table A-38.

Table A-38 City of Auburn Compliance with NFIP

NFIP Topic	Comments
Insurance Summary	
How many NFIP policies are in the community? What is the total premium and coverage?	21 policies $20,920 in premiums $5,998,200 in coverage
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	30 paid claims $610,7000 in paid losses 2 substantial damage claims
How many structures are exposed to flood risk within the community?	23 improved parcels in the 1% annual chance flood zone, 0 in the0.2% annual chance flood zone
Repetitive Loss (RL) and Severe Repetitive Loss Properties (SRL)	0 RL 0 SRL
Describe any areas of flood risk with limited NFIP policy coverage	None.
Staff Resources	
Is the Community Floodplain Administrator or NFIP Coordinator certified?	No
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Permit review, education, inspections
What are the barriers to running an effective NFIP program in the community, if any?	None
Compliance History	
Is the community in good standing with the NFIP?	Y
Are there any outstanding compliance issues (i.e., current violations)?	N
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV 8/30/2004
Is a CAV or CAC scheduled or needed?	N
Regulation	
When did the community enter the NFIP?	12/31/1981
Are the FIRMs digital or paper?	Digital

NFIP Topic	Comments
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Meet.
Provide an explanation of the permitting process.	Permits are reviewed by building department to ensure that building is not in floodplain. If building is in the floodplain, the floodplain ordinance is enforced and those building standards are used.
Community Rating System	
Does the community participate in CRS?	N
What is the community's CRS Class Ranking?	N/A
What categories and activities provide CRS points and how can the class be improved?	N/A
Does the plan include CRS planning requirements?	N/A

A.7.3. Mitigation Actions

The planning team for the City of Auburn identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Drought & Water Shortage
- Floods: 1%/0.2% annual chance
- Floods: Localized Stormwater
- Severe Weather: Extreme Heat
- Severe Weather: Freeze and Snow
- Wildfire

Though initially considered priorities for the City, the following are considered low priority hazards for mitigation action purposes:

- Earthquake
- Pandemic
- Severe Weather: Heavy Rains and Storms

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this plan. It should further be noted, that although a jurisdiction may not have specific

projects identified for each priority hazard for the five year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement and would like to preserve their hazard priorities should future projects be identified where the implementing jurisdiction has the future capacity to implement.

Multi-Hazard Actions

Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan

Hazards Addressed: Multi-hazard (Climate Change, Drought & Water Shortage, Earthquake, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Pandemic, Severe Weather: Extreme Heat, Severe Weather: Freeze and Snow, Severe Weather: Heavy Rains and Storms, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (AB 2140).

Project Description: Specifically, this section requires that each jurisdiction adopt a local hazard mitigation plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan. Adoption of the LHMP into the Safety Element of the General Plan may be by reference or incorporation.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Safety Element of General Plan

Responsible Office: City of Auburn Planning Department

Priority (H, M, L): High

Cost Estimate: Jurisdictional board/staff time

Potential Funding: Local budgets

Benefits (avoided Losses): Incorporation of an adopted LHMP into the Safety Element of the General Plan will help jurisdictions maximize the cost recovery potential following a disaster.

Schedule: As soon as possible

Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness

Hazards Addressed: Multi-hazard (Climate Change, Drought & Water Shortage, Earthquake, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Pandemic, Severe Weather: Extreme Heat, Severe Weather: Freeze and Snow, Severe Weather: Heavy Rains and Storms, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The City and County play a key role in public outreach/education efforts to communicate the potential risk and vulnerability of their community to the effects of natural hazards. A comprehensive multi-hazard public education program will better inform the community of natural hazards of concern and actions the public can take to be better prepared for the next natural disaster event.

Project Description: A comprehensive multi-hazard outreach program will ascertain both broad and targeted educational needs throughout the community. The City will work with the County and other agencies as appropriate to develop timely and consistent annual outreach messages in order to communicate the risk and vulnerability of natural hazards of concern to the community. This includes measures the public can take to be better prepared and to reduce the damages and other impacts from a hazard event. The public outreach effort will leverage and build upon existing mechanisms, will include elements to meet the objectives of Goal 3 of this LHMP Update, and will consider:

- Using a variety of information outlets, including websites, local radio stations, news media, schools, and local, public sponsored events;
- Creating and distributing (where applicable) brochures, leaflets, water bill inserts, websites, and public service announcements;
- Displaying public outreach information in County office buildings, libraries, and other public places and events;
- Developing public-private partnerships and incentives to support public education activities.

Location of Project: Citywide

Other Alternatives: Continue public information activities currently in place.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Existing County outreach programs will be reviewed for effectiveness and leveraged and expanded upon to reach the broader region.

Responsible Office: City of Auburn in partnership with the County

Priority (H, M, L): High

Cost Estimate: Annual costs to be determined, and will depend on the scope and frequency of activities and events as well as volunteer participation

Benefits (Losses Avoided): Increase residents' knowledge of potential hazards and activities required to mitigate hazards and be better prepared. Protect lives and reduce damages, relatively low cost to implement.

Potential Funding: Local budgets, grant funds

Timeline: Ongoing/Annual public awareness campaign

Action 3. Continue Annual Weed Abatement Ordinance

Hazards Addressed: Multi-hazard (Climate Change, Drought & Water Shortage, Severe Weather: Extreme Heat, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Fire hazards can come in the form of both wildfires and urban fires. California is recognized as one of the most fire-prone and consequently fire-adapted landscapes in the world. The City of Auburn has a 62% probability of a hostile fire ignition in the High Fire Severity Zone or Very High Severity Zone by Cal Fire in compliance with the Bates Bill (California Government Code sections 51175-51188). In the event the hostile fire occurs during a weather event (Red Flag), the likelihood of devastating effects is likely. The combination of complex terrain, Mediterranean climate, and productive natural plant communities, along with ample natural ignition sources, has created conditions for extensive wildfires within the City of Auburn.

Project Description: The City shall continue to enforce all adopted Weed Abetment Ordinances. Implementing the 5 "E's" Engineering, Enforcement, Education, Emergency Response and Economic Incentive from the Auburn City Fire Wildland Urban Interface Strategic Plan, 2019.

Other Alternatives: Rely on property owners to take action and follow local ordinances.

Existing Planning Mechanisms through which Action will be Implemented: Work with the current property owner or land manager to implement and enforce weed abatement ordinances in the City. Apply for local, State, or Federal funding to implement these plans.

Responsible Office: City of Auburn (Fire, Planning, Public Works, and Police Departments)

Priority (H, M, L): High

Cost Estimate: Annual costs to be determined and will depend on the scope and frequency of activities and events as well as volunteer participation.

Potential Funding: Local Budgets, Grant Funds

Benefits (avoided Losses): Reduced risk of loss of life, property, and the environment from catastrophic wildfire in developed within the City.

Schedule: Ongoing

Action 4. Implement Wildland-Urban Interface Planning and Risk Mitigation Project

Hazards Addressed: Multi-hazard (Climate Change, Drought & Water Shortage, Severe Weather: Extreme Heat, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Fire hazards can come in the form of both wildfires and urban fires. California is recognized as one of the most fire-prone and consequently fire-adapted landscapes in the world. The City of Auburn has a 62% probability of a hostile fire ignition in the High Fire Severity Zone or Very High Severity Zone by Cal Fire in compliance with the Bates Bill (California Government Code sections 51175-51188). In the event the hostile fire occurs during a weather event (Red Flag), the likelihood of devastating effects is likely. The combination of complex terrain, Mediterranean climate, and productive natural plant communities, along with ample natural ignition sources, has created conditions for extensive wildfires within the City of Auburn.

Project Description: Create a Wildland-Urban Interface Fire Planning and a fire risk mitigation project assessment for the City of Auburn. The City desires to involve its public safety partners and stakeholders in developing collaborative emergency response plan for catastrophic wildfire, as well as develop a prioritized list of needed risk mitigation projects that may be undertaken with future funding to mitigate identified risk issues.

Other Alternatives: Continue current efforts to reduce wildfire risk in place.

Existing Planning Mechanisms through which Action will be Implemented: Work with the current stakeholders, consultant, and other departments as necessary to implement the development of the Wildland-Urban Interface Plan and Risk Mitigation Project for the City. Apply for local, State, or Federal funding to implement these plans.

Responsible Office: City of Auburn (Fire, Planning, Public Works Departments)

Priority (H, M, L): High

Cost Estimate: Costs to be determined and will depend on the scope and frequency of activities and events as well as stakeholder participation.

Potential Funding: Local Budgets, Grant Funds

Benefits (avoided Losses): Reduced risk of loss of life, property, and the environment from catastrophic wildfire in developed within the City.

Schedule: As soon as possible

Action 5. Integrate community and ecological resiliency to climate change hazards, such as drought, extreme heat, flood, and vector-borne diseases.

Hazards Addressed: Multi-hazard (Climate Change, Drought & Water Shortage, Earthquake, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Pandemic, Severe Weather: Extreme Heat, Severe Weather: Freeze and Snow, Severe Weather: Heavy Rains and Storms, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Populations in Auburn tend to be more vulnerable to extreme heat, human health hazards, and wildfire, which directly affect health outcomes. Due to financial limitations, mobility challenges, and lack of access to medical care, the most sensitive populations include households in poverty, seniors living alone, outdoor workers, and persons experiencing homelessness. The homes that vulnerable populations live in, especially those located on single access roads, are also highly vulnerable to direct damage from hazards such as landslides, severe weather, and wildfire.

Project Description: Reduce health and economic risks associated with extreme heat and human health hazards. The City shall engage in partnerships and support local and regional interagency efforts to assess climate change impacts and to develop and implement strategies that increase resilience of vulnerable ecosystems.

Other Alternatives: No other alternatives are identified at this time.

Existing Planning Mechanisms through which Action will be Implemented: The City works with regional, state, and federal plant and wildlife management agencies and organizations to protect vulnerable habitat and improve ecosystem connectivity. Ensure that there are safe places for community members to gather during hazardous events, including extreme temperatures. The City encourages projects that include landscaping to use plants that will continue to be viable in the area under long-term future climate conditions. Reduce health and economic risks associated with extreme heat and human health hazards.

Responsible Office: Citywide

Priority (H, M, L): High

Cost Estimate: Jurisdictional board/staff time

Potential Funding: Local Budgets, Grant Funds

Benefits (avoided Losses): Protect and increase residents' knowledge of climate change hazards, such as drought, extreme heat, and vector-borne diseases. Establish ecological resiliency within the City.

Schedule: Ongoing