

# Shady Cove Addendum to the Jackson County NHMP

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*Photos courtesy of Oregon State Archives*

Effective:

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Prepared for  
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# Introduction

## Purpose

This is an update of the Shady Cove addendum to the Jackson County Multi-Jurisdictional Natural Hazard Mitigation Plan (MNHMP, NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices) which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

Updates to Shady Cove's addendum are further discussed throughout the NHMP and within Volume II, Appendix B, which provides an overview of alterations to the document that took place during the update process.

Shady Cove adopted their addendum to the Jackson County Multi-jurisdictional NHMP on [date], 2023. FEMA Region X approved the Jackson County NHMP on [date], 2023 and the City's addendum on [date], 2023. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through [date-1], 2028.

## NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation*.

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption, and federal approval of this NHMP ensures that the city will remain eligible for non-disaster and disaster mitigation project grants. Shady Cove was included as an addendum in the 2012 and 2018 Jackson County NHMP processes.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) partnered with the Oregon Department of Emergency Management (OEM), Jackson County, and Shady Cove to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program. Members of the Shady Cove NHMP steering committee also participated in the County NHMP update process (Volume II, Appendix B).

By updating the NHMP, locally adopting it, and having it approved by FEMA, Shady Cove maintains eligibility for FEMA Hazard Mitigation grant program funds.

The Jackson County NHMP and Shady Cove addendum are the result of a collaborative effort between citizens, public agencies, non-profit organizations, the private sector, and regional organizations. A project steering committee guided the process of developing the NHMP.

### **Convener and Committee**

The Shady Cove City Administrator served as the designated convener of the NHMP update and the Public Works Director will take the lead in implementing, maintaining, and updating the addendum to the Jackson County NHMP in collaboration with the designated convener of the Jackson County NHMP (Emergency Manager).

Representatives from the City of Shady Cove steering committee met formally and informally, to discuss updates to their addendum (Volume II, Appendix B). The steering committee reviewed and revised the City's addendum, with particular focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Jackson County Emergency Management and the OPDR.

The Shady Cove Steering Committee was comprised of the following representatives:

- Convener, Tom Corrigan, City Administrator
- Travis Crume, Chief, Jackson County Fire District #4
- Rowan Fairchild, Planner (RVCOG)
- Ed Mayer, Emergency Management Consultant
- Spencer McMahon, Public Works
- Kathy Nuckles, Council President

The steering committee was closely involved throughout the development of the NHMP and served as the local oversight body for the NHMP's development.

## **NHMP Implementation and Maintenance**

The City Council will be responsible for adopting the Shady Cove addendum to the Jackson County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the City addendum is part of the County's multi-jurisdictional NHMP, the City will look for opportunities to partner with the County. The City's steering committee will convene after re-adoption of the Shady Cove NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for the cities to report on NHMP implementation and maintenance during their meetings. The City Administrator will serve as the convener and will be responsible for assembling the steering committee.

The steering committee will be responsible for:

- Reviewing existing action items to determine suitability of funding;

- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating and training new steering committee members on the NHMP and mitigation actions in general;
- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County’s implementation and maintenance process (Volume I, Section 4).

The steering committee will be responsible for activities outlined in Volume I, Section 4.

The City will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix D).

## Implementation through Existing Programs

Many of the Natural Hazard Mitigation Plan’s recommendations are consistent with the goals and objectives of the City’s existing plans and policies. Where possible, Shady Cove will implement the NHMP’s recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP’s action items through such plans and policies increases their likelihood of being supported and implemented.

Shady Cove’s acknowledged comprehensive plan is the City of Shady Cove Comprehensive Plan administered by the Shady Cove Planning Commission. The City implements the plan through the Community Development Code.

Shady Cove currently has the following plans that relate to natural hazard mitigation. For a complete list visit the City’s [website](#):

- [Comprehensive Plan](#) (2016)
- [Municipal Code](#) (Flood Ordinance updated in 2017, [Riparian Ordinance](#), 2016)
- [Emergency Operations Plan](#) (2012)
- Stormwater Master Plan
- [Building Codes and Standards: Oregon Structural Specialty Code](#) (Commercial) and [Oregon Residential Specialty Code](#).

### Integration Since Last NHMP

Since the previous NHMP there have been no direct activities taken to integrate the NHMP into other planning mechanisms. However, the City maintains development codes and ordinances, which include a flood ordinance (last revised in 2017). Structural Building Codes are regulated by

the Oregon Legislature and were last revised in 2021 (residential), 2022 (commercial). As such, Jackson County (and cities) benefit by adopting these minimum standard building codes as established by the State to capture home hardening and building resilience during new construction and substantial improvement of existing construction. The Building Codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. As such new and existing residential and commercial structures are required to building according to the latest seismic and wind standards. Additionally, the codes require fire resistant building materials for those structures constructed near or within the WUI.

During the update of this NHMP City plans including the comprehensive land use, transportation/roads, water, and stormwater plans were reviewed to identify possible natural hazard mitigation strategies (action items).

### **Expand and Improve Capabilities and Integration Process**

Funding and staff resource availability is the primary constraint to achieving natural hazard mitigation priorities. As such the City has identified actions (Table SA-1) that seek to expand and improve capabilities to achieve natural hazard mitigation.

In addition, the City will seek opportunities to integrate the plan's data, information, and hazard mitigation goals and actions into other planning mechanisms (e.g., budgets, ordinances, comprehensive plan, water, wastewater, and transportation system plans). See Volume I, Section 4 for additional information.

# Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3)(iv), *Mitigation Strategy*.

The City’s mitigation strategy (action items) was first developed during the 2012 NHMP planning process. During this process, the steering committee assessed the City’s risk, identified potential issues, and developed a mitigation strategy (action items).

During the 2017 and 2023 updates, the City re-evaluated and updated their mitigation strategy (action items). During these processes, action items were updated, noting what accomplishments had been made and whether the actions were still relevant, and new action items were defined.

## Mitigation Successes

The community of Shady Cove has several examples of hazard mitigation including the following projects funded through FEMA [Hazard Mitigation Assistance](#) and the Oregon Infrastructure Finance Authority’s [Seismic Rehabilitation Grant Program](#)<sup>1</sup>.

### FEMA Funded Mitigation Successes

- 2023: DR4562-42 – Shady Cove Wildfire Mitigation Project (Rogue Basin Partnership) (\$1,118,000) - PENDING

### Seismic Rehabilitation Grant Program Mitigation Successes

- 2018: Shady Cove Fire Station (Jackson County Fire District 4) (\$166,556)

## Action Items

Table SA-1 documents the title of each action along with, the lead organization, partners, timeline, cost, and potential funding resources.

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<sup>1</sup> The Seismic Rehabilitation Grant Program (SRGP) is a state of Oregon competitive grant program that provides funding for the seismic rehabilitation of critical public buildings, particularly public schools, and emergency services facilities.

**Table SA-1 Action Items**

Action Item #	Mitigation Actions	Potential Funding Resources	Lead	Partners	Timeline	Cost
<b>Multi hazard</b>						
1.1	Incorporate hazard-resilient development design and siting of infrastructure into development code, ordinances, and updated Stormwater Master Plan.	Local Funding Resources, DLCDC Technical Assistance Grant	City Administration	City Planning, City Building	O	L
1.2	Integrate the Mitigation Plan findings into planning and regulatory documents and programs including the Comprehensive Plan (particularly Goal 7).	Local Funding Resources, DLCDC Technical Assistance Grant	City Planning	RVCOG, DLCDC, FEMA	M	L
1.3	Enhance hazard resistant construction methods (wind, winter storm, landslide, etc.) where possible to reduce damage to utilities and critical facilities. In part, this may be accomplished by encouraging electric utility providers to convert existing overhead lines to underground lines.	Local Funding Resources	City Planning, Public Works	Utility Partners	O	L
<b>Air Quality</b>						
2.1	Sustain public outreach and education program around air quality index.	Local Funding Resources	City Administration	Jackson County Health & Human Services, OHA, Media	O	L
3.0	See multi-hazard actions for applicable mitigation strategies.					

Action Item #	Mitigation Actions	Potential Funding Resources	Lead	Partners	Timeline	Cost
<b>Earthquake</b>						
	Implement structural and non-structural retrofits to City Hall and other critical facilities.	Local Funding Resources, FEMA (HMA), SRGP	City Administration	Building Officials, Planning, Public Works	L	H
<b>Emerging Infectious Disease</b>						
5.0	See multi-hazard actions for applicable mitigation strategies.					
<b>Flood</b>						
						L
6.2		Local Funding Resources	Floodplain Management	City Planning, City Emergency Management, Upper Rogue Watershed Council, DLCD, FEMA, OEM	O	L
6.3		Local Funding Resources, DLCD, OEM, FEMA, OPRD (Local Government Grant Program)	City Planning		O	L

Action Item #	Mitigation Actions	Potential Funding Resources	Lead	Partners	Timeline	Cost
6.4	Protect wastewater lift stations and parks in floodplains. Include these priorities in the updated Stormwater Master Plan.	Local Funding Resources, DLCD, FEMA, ASFPM, DEQ	City Planning	City Public Works, City Floodplain Management, Rogue Valley Sewer Services, Upper Rogue Watershed Council, RVCOG	L	M
6.5	Identify current capabilities and research options to secure an early warning system (EWS) for dam failure or flood. Continue to improve emergency communications and conduct outreach with the public.	Local Funding Resources, DLCD, FEMA, ASFPM, DEQ	City Emergency Management	County Emergency Management, OEM, DLCD, USACE, Silver Jackets	M	L
6.6	Create a dam failure evacuation plan for the City. Coordinate with Jackson County Emergency Management and the US Army Corps of Engineers to ensure that current inundation data is used during risk analysis and encourage collaboration and information sharing.	Local Funding Resources, PDM, FMA, HMGP, PA, Silver Jackets	City Emergency Management	County Emergency Management, USACE, Silver Jackets	S	L
<b>Landslide</b>						
See multi-hazard actions for applicable mitigation strategies.						

Action Item #	Mitigation Actions	Potential Funding Resources	Lead	Partners	Timeline	Cost
<b>Severe Weather (Extreme Heat, Windstorm, Winter Storm)</b>						
	<b>Continue to ensure emergency power for critical facilities, including the Fire Department.</b>	<b>Local Funding Resources, FEMA (HMA)</b>	<b>City Emergency Management</b>	<b>City Hazard Mitigation Committee, Granting Organization, Upper Rogue Community Center</b>	<b>O</b>	<b>M</b>
8.2	Develop and sustain tree-trimming and removal programs to keep trees from threatening lives, property, and public infrastructure during severe weather events.	Local Funding Resources, Utility Partners, HMA	City Emergency Management	City Public Works, Utility Partners, Local Arborists and Tree Services	S	L
8.3	Continue to support Community Center cooling centers during extreme heat events and publicize information to the public.	Local Funding Resources	City Administration	Local Organizations, Media	O	L
<b>Volcanic Event</b>						
See multi-hazard actions for applicable mitigation strategies.						
<b>Wildfire</b>						
10.1	<b>Conduct public outreach for individual property owners living in the Wildland/Urban Interface (WUI), after mapping project.</b>	<b>Local Funding Resources, Fire and Rescue Districts, ODF, Firewise</b>	<b>City Emergency Management</b>	<b>City Hazard Mitigation Committee, JCFD#4, Firewise Project Coordinator, Media, FEMA, OEM, DLCD, OSFM, ODF, BLM, USFS, Insurance and Real Estate Companies, Jackson County Sheriff's Department</b>	<b>O</b>	<b>L</b>

Action Item #	Mitigation Actions	Potential Funding Resources	Lead	Partners	Timeline	Cost
<b>10.2</b>	<b>Reimagined) on implementation of the Rogue</b>	<b>Fire and Rescue Districts, OEM, ODF</b>	<b>City Planning</b>	<b>Public Works, Administration, Jackson County, JCFD#4, BLM - Medford District, ODF, OSFM</b>	<b>O</b>	<b>M</b>
10.3		Local Funding Resources, ODF, Firewise, OSFM Grant	City Emergency Management	City Hazard Mitigation Committee, JCFD#4, Firewise, ODF, BLM, USFS, OSFM	O	H
10.4		Local Funding Resources, ODF, Firewise	City Emergency Management	City Hazard Mitigation Committee, JCFD #4, Firewise, OSFM, ODF, BLM, USFS	S	L
10.5		Local Funding Resources	City Administration	Jackson County Fire District #4	S	L

Source: Shady Cove NHMP Steering Committee, updated 2023

Cost: L – Low (less than \$50,000), M - Medium (\$50,000-\$100,000), H - High (more than \$100,000)

Timing: O-Ongoing (continuous), S-Short (1-2 years), M-Medium (3-5 years), L-Long (5 or more years)

Priority Actions: Identified with **bold** text and **orange** highlight

# Risk Assessment

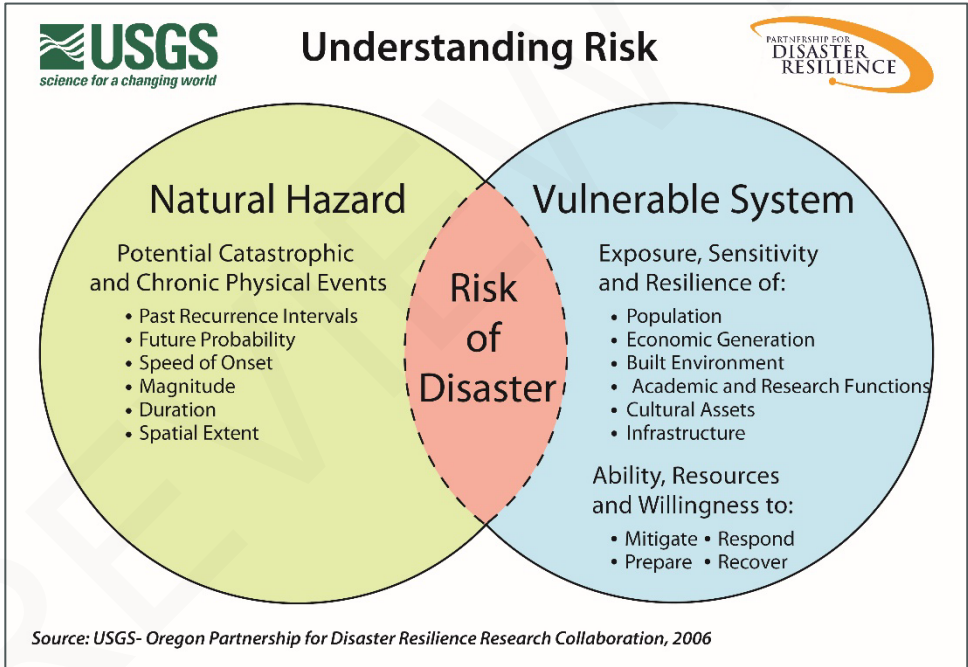
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- **Phase 1:** Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- **Phase 2:** Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places and drinking water sources.
- **Phase 3:** Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure SA-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

**Figure SA-1 Understanding Risk**



# Hazard Analysis

The Shady Cove steering committee developed their hazard vulnerability assessment (HVA), using their previous HVA and the County’s HVA (Volume II, Appendix C) as a reference. Changes from the County’s HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to Shady Cove, which are discussed throughout this addendum.

Table SA-2 shows the HVA matrix for Shady Cove listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

One catastrophic hazards (Cascadia Subduction Zone earthquake) and four chronic hazards (wildfire, emerging infectious disease, flood, and winter storm) rank as the top hazard threats to the City (Top Tier). Extreme heat, air quality, windstorm, and landslide comprise the next highest ranked hazards (Middle Tier), while drought, crustal earthquake, and volcanic events comprise the lowest ranked hazards (Bottom Tier).

**Table SA-2 Hazard Analysis Matrix**

Hazard	History	Vulnerability	Maximum Threat	Probability	Total Threat Score	Hazard Rank	Hazard Tiers
Wildfire	20	50	100	56	226	#1	Top Tier
Emerging Infectious Disease	16	40	100	49	205	#2	
Earthquake - Cascadia	2	50	100	49	201	#3	
Flood	20	40	70	70	200	#4	
Winter Storm	20	50	60	70	200	#4	Middle Tier
Extreme Heat	20	25	70	70	185	#6	
Air Quality	18	40	60	63	181	#7	
Windstorm	20	20	50	70	160	#8	
Landslide	2	40	60	56	158	#9	
Drought	16	20	50	63	149	#10	Bottom Tier
Earthquake - Crustal	2	25	50	21	98	#11	
Volcanic Event	2	5	50	7	64	#12	

Source: Shady Cove NHMP Steering Committee, 2023.

# Community Characteristics

Table SA-3 and the following section provides information on City specific demographics and characteristics. For additional information on the characteristics of Shady Cove, in terms of geography, environment, population, demographics, employment and economics, as well as housing and transportation see Volume III, Appendix C. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the City specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Shady Cove is in Jackson County in southwestern Oregon. It is in the northern region of the county. Oregon Route 62 is the main road through the community, leading north 2 miles to

Trail and south 21 miles to the City of Medford, the Jackson County seat. The western boundary of Crater Lake National Park is 43 miles to the northeast via Route 62. The City and most of Jackson County are within the Rogue watershed.

Shady Cove experiences a relatively mild climate with four distinct seasons that comes from its position on the west coast of North America and within the mountains of the region. As a result of its location, Shady Cove has a climate somewhat intermediate to central California and northern Oregon. The city averages about 31 inches of rain.<sup>2</sup> Most of the rain (28.6 inches) falls between October and May.

### **Population and Income**

The City was incorporated in 1973 and has an area today of 2.01 square miles (5.21 km<sup>2</sup>), of which 1.91 square miles (4.95 km<sup>2</sup>) is land and 0.10 square miles (0.26 km<sup>2</sup>) is water. Between 2016 and 2021 the City grew by 55 people (2%), from 3,040 to 3,095. During this same period, median household incomes in the area increased by 60%.

According to the State's official coordinated population forecast, between 2021 and 2040 the City's population is forecast to increase by 10% to 3,398. Most of the population is White/Caucasian (93%) and about 6% of the population is Hispanic or Latino. The poverty rate is 11% (8% for Seniors), only 2% do not have health insurance, and 56% of renters pay more than 30% of their household income on rent (11% for owners). The city has an educated population with 92% of residents 25 years, and older holding a high school degree, 19% have a bachelor's degree or higher. Approximately 25% of the population lives with a disability, and 17% are either below 18 (25%) or over 65 (31%) years of age. About 19% of the population are 65 or older and living alone and 6% are single parents.

### **Transportation, Housing, and Infrastructure**

In the City of Shady Cove, transportation has played a major role in shaping the community. Shady Cove's commercial areas developed along primary routes and residential development followed nearby. Today, mobility plays an important role in Shady Cove and the daily experience of its residents and businesses as they move from point A to point B. The City is primarily serviced by State Route 62, and is divided by the Rogue River into two halves.

By far, motor vehicles represent the dominant mode of travel through and within Shady Cove. Sixty percent (60%) of renters and 79% of owners have two or more vehicles, although 26% of renters do not have access to a car.

Development in the City includes 1.91 square miles of land. The City of Shady Cove includes a diversity of land uses but is zoned primarily residential. The city's [Comprehensive Plan](#) identifies land use needs within the city and its urban growth boundary (see [Zoning Map](#)). Since the previous NHMP (2018) the city has not annexed any land or had major development occur in the city. New development has complied with the standards of the [Oregon Building Code](#) and the city's development code including their floodplain ordinance.

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<sup>2</sup> NOAA. National Centers for Environmental Information. Summary of Monthly Normals (1991-2010). Station: SHADY COVE 0.2 S, OR US US1ORJC0018. <https://www.ncei.noaa.gov/access/services/data/v1?dataset=normals-monthly-1991-2020&startDate=0001-01-01&endDate=9996-12-31&stations=US1ORJC0018&format=pdf>

Sixty-seven percent (67%) of housing units are single-family and 21% are mobile homes. Less than one quarter of homes (19%) were built before 1970. Most (65%) were built after 1990. Newer homes are more likely to be built to current seismic, flood, wildfire, and other hazard standards. Sixty-three percent (63%) of housing units are owner occupied and 26% are renter occupied, while 5% are seasonal homes, and 6% are vacant.

The City of Shady Cove Public Works Department maintains Aunt Caroline's Park, City Streets, and a variety of other services within the City. Jackson County Public Works is contracted by the City to do heavier work such as paving of streets, ditch maintenance, and crack sealing. Not all streets are City streets. There are a variety of "shared, private drives" in Shady Cove.

### **Economy**

A diverse range of businesses have chosen to locate in Shady Cove. Shady Cove's location on the Rogue River and its proximity to Crater Lake National Park give it market access that is more favorable than usual for a rural town.

About 42% of the resident population 16 and over is in the labor force (1,277 people) and are employed in a variety of occupations including construction, extraction, and maintenance (20%), sales and related (17%), transportation and material moving (17%), professional and related (16%), and management, business, and financial (9%) occupations. Most workers drive alone to work (64%), however, 20% work at home while 10% carpool and 4% either walk or use a bicycle.

Most workers residing in the city (93%, 757 people) travel outside of the city for work primarily to Medford and surrounding areas.<sup>3</sup> A significant population of people travel to the city for work, (84% of the workforce, 308 people) primarily from Medford, Eagle Point, and surrounding areas.<sup>4</sup>

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<sup>3</sup> U.S. Census Bureau. LEHD Origin-Destination Employment Statistics (2002-2020). Longitudinal-Employer Household Dynamics Program, accessed on August 17, 2023 at <https://onthemap.ces.census.gov>.

<sup>4</sup> Ibid.

**Table SA-3 Community Characteristics**

Population Characteristics		
<b>2016 Population Estimate</b>	3,040	
<b>2021 Population Estimate</b>	3,095	
<b>2040 Population Forecast*</b>	3,398	
<b>Race</b>		
American Indian and Alaska Native	1%	
Asian	0%	
Black/ African American	< 1%	
Native Hawaiian and Other Pacific Islander	0%	
White	93%	
Some Other Race	< 1%	
Two or More Races	5%	
<b>Hispanic or Latino/a (of any race)</b>	6%	
<b>Limited or No English Spoken</b>	0	0%
<b>Vulnerable Age Groups</b>		
Less than 5 Years	113	4%
Less than 18 Years	385	13%
65 Years and Older	926	30%
85 Years and Older	31	1%
Age Dependency Ratio		74.4
<b>Disability Status (Percent age cohort)</b>		
Total Disabled Population	754	25%
Children (Under 18)	171	44%
Working Age (18 to 64)	239	14%
Seniors (65 and older)	344	37%

Household Characteristics		
<b>Housing Units</b>		
Single-Family (includes duplexes)	993	67%
Multi-Family	173	12%
Mobile Homes (includes RV, Van, etc.)	316	21%
<b>Household Type</b>		
Family Household	936	71%
Married couple (w/ children)	142	11%
Single (w/ children)	73	6%
Living Alone 65+	256	19%
<b>Year Structure Built</b>		
Pre-1970	278	19%
1970-1989	237	16%
1990-2009	795	65%
2010 or later	172	12%
<b>Housing Tenure and Vacancy</b>		
Owner-occupied	936	63%
Renter-occupied	381	26%
Seasonal	81	5%
Vacant	84	6%
<b>Vehicles Available (Occupied Units)</b>		
No Vehicle (owner occupied)	29	3%
Two+ vehicles (owner occupied)	741	79%
No Vehicle (renter occupied)	98	26%
Two+ vehicles (renter occupied)	227	60%

Income Characteristics		
<b>Households by Income Category</b>		
Less than \$15,000	106	8%
\$15,000-\$29,999	201	15%
\$30,000-\$44,999	247	19%
\$45,000-\$59,999	130	10%
\$60,000-\$74,999	151	11%
\$75,000-\$99,999	65	5%
\$100,000-\$199,999	370	28%
\$200,000 or more	47	4%
<b>Median Household Income</b>	\$56,114	
<b>Gini Index of Income Inequality</b>	0.43	
<b>Poverty Rates (Percent age cohort)</b>		
Total Population	333	11%
Children (Under 18)	144	37%
Working Age (18 to 64)	111	6%
Seniors (65 and older)	78	8%
<b>Housing Cost Burden (Cost &gt; 30% of household income)</b>		
Owners with a Mortgage	84	9%
Owners without a Mortgage	15	2%
Renters	213	56%

Employment Characteristics		
<b>Labor Force (Population 16+)</b>		
In labor Force (% Total Population)	1,277	42%
Unemployed (% Labor Force)	68	5%
<b>Occupation (Top 5) (Employed 16+)</b>		
Construction, Extraction, & Maint.	236	20%
Sales & Related	207	17%
Transportation and Material Moving	200	17%
Professional & Related	192	16%
Management, Business, & Financial	113	9%
<b>Health Insurance</b>		
No Health Insurance	55	2%
Public Health Insurance	1,870	61%
Private Health Insurance	1,986	65%
<b>Transportation to Work (Workers 16+)</b>		
Drove Alone	708	64%
Carpooled	113	10%
Public Transit	18	2%
Motorcycle	0	0%
Bicycle/Walk	47	4%
Work at Home	219	20%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates; Portland State University, Population Research Center, "Annual Population Estimates, Table 4", 2016 and 2021; and "Population Forecasts, Summary Tab", 2022.

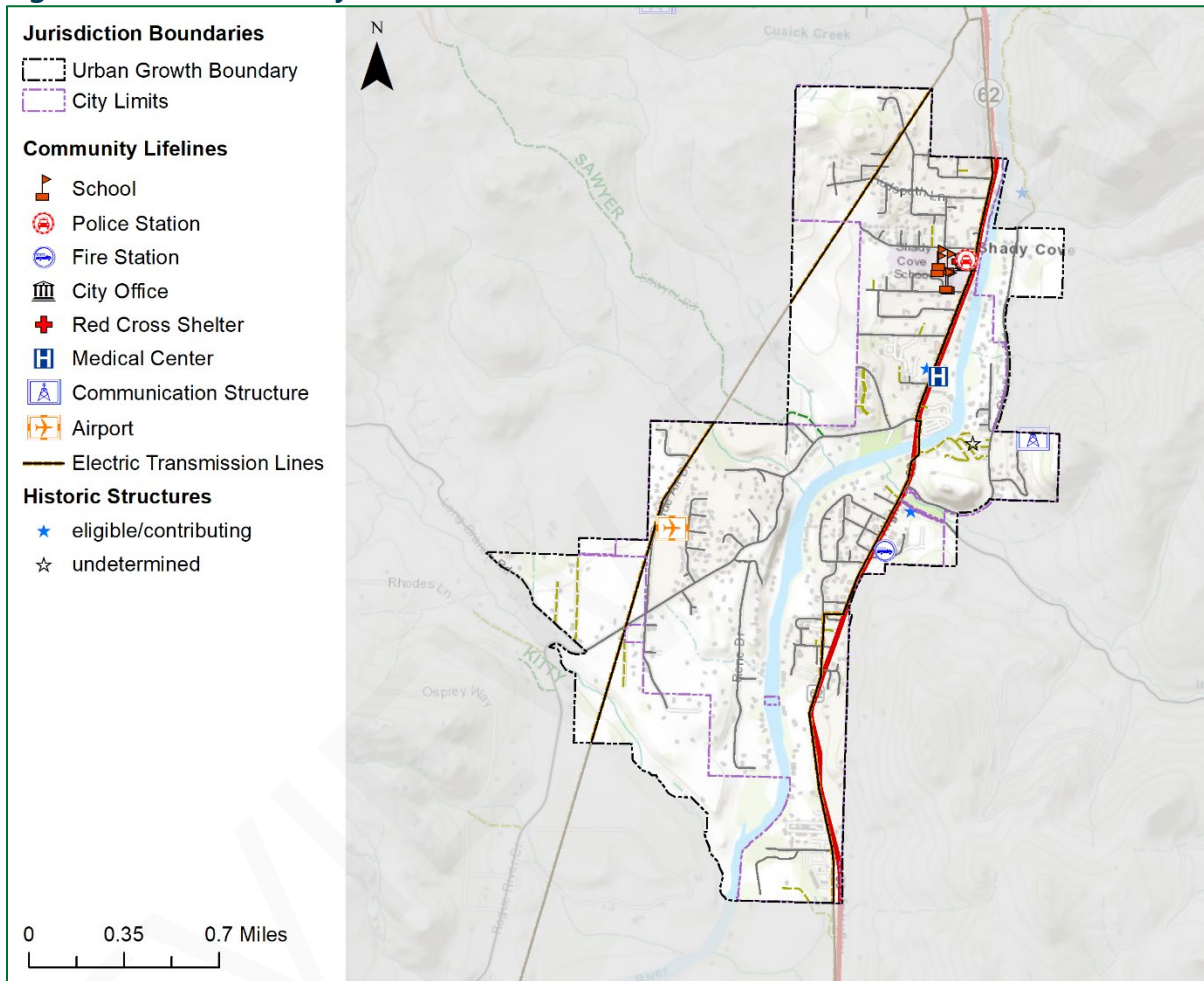
Note 1: \* = Population forecast within UGB

Note 2: ACS 5-year estimates represent average characteristics from 2017-2021. Sampling error may result in low reliability of data. This information or data is provided with the understanding that conclusions drawn from such information are the responsibility of the user. Refer to the original [source](#) documentation to better understand the data sources, results, methodologies and limitations of each dataset presented.

# Community Assets

This section outlines the resources, facilities, and infrastructure that, if damaged, could significantly impact the public safety, economic conditions, and environmental integrity of Shady Cove. Community lifelines and historic structures in Shady Cove are shown in Figure SA-2. Table SA-4 provides exposure information for some community lifelines.

**Figure SA-2 Community Lifelines and Historic Structures**



Source: Oregon Partnership for Disaster Resilience, Oregon Department of Geology and Mineral Industries.

**Table SA-4 Community Lifelines**

Facility Name	Community Lifeline Category	Lifeline Type	Earthquake-Liquefaction Hazard	Flood Hazard	Landslide Hazard	Wildfire Hazard
Upper Rogue Community Center	food, water, and shelter	red cross shelter	very high	minimal	low	low
Crater Lake Medical South	health and medical	medical facility	very high	500-Year	low	low
Shady Cove City Hall	safety and security	city hall	very high	minimal	moderate	low
Shady Cove Library	safety and security	library	very high	minimal	moderate	low
Jackson County Fire District 4 - Shady Cove	safety and security	fire station	very high	500-Year	low	low
Shady Cove Police Department	safety and security	police station	very high	500-Year	low	low
Shady Cove Public Works	safety and security	public works	very high	minimal	moderate	low
Sewer Treatment Plant	safety and security	public works	very high	minimal	moderate	moderate
Shady Cove School	safety and security	school	very high	minimal	moderate	low
Shady Cove Airpark	transportation	airport	low	minimal	low	moderate
Communication Structure	communications	communication structure	none	minimal	high	moderate

Source: Oregon Department of Geology and Mineral Industries, Shady Cove NHMP Steering Committee

### Infrastructure:

Infrastructure that provides services for the City includes:

#### Transportation Networks:

- Highway 62
- Rogue River Dr
- Old Ferry Rd
- Indian Creek Rd
- Shady Cove Airfield (Rogue Air Dr)

#### Water Facilities:

- 5 Wastewater Lift Stations, and about 1,000 private wells
- Wastewater Facility

#### Private Utilities:

- Pacific Power
- Communication Towers
- Community Water Companies (about 15% of population served by private water)
  - Hiland Water
  - Anglers Cove/Shady Cove Heights Water Co

## Critical Facilities

Facilities that are critical to government response and recovery activities (i.e., life, safety, property, and environmental protection). These facilities include: 911 Centers, Emergency Operations Centers, Police and Fire Stations, Public Works facilities, sewer and water facilities, hospitals, bridges, roads, shelters, and more. Facilities that, if damaged, could cause serious secondary impacts may also be considered “critical.” A hazardous material facility is one example of this type of critical facility.

### Fire Stations:

- Jackson County Fire District #4

### Law Enforcement:

- Jackson County Sheriff substation

### City Buildings:

- City Hall (EOC)
- Public Works shop

### Private:

- Shady Cove Market
- Shady Cove Hardware
- Dollar Store
- Shady Cove Pharmacy

## Essential Facilities

Facilities that are essential to the continued delivery of key government services and/or that may significantly impact the public’s ability to recover from the emergency. These facilities may include City buildings such as the Public Services Building, the City Hall, and other public facilities such as schools.

### Hospitals/Immediate Medical Care Facilities:

- Shady Cove Clinic

### Public Schools:

- Shady Cove Elementary/ Middle School

### City/County/Other Buildings:

- Shady Cove Library (County)

### Potential Shelter Sites:

- All schools
- Assembly of God
- Our Lady of Fatima Parish
- Shady Cove Church of Christ
- St. Martin’s Episcopal Church
- Dependence Church
- Trail Christian (in County)
- Jehovah’s Witness Hall
- Upper Rogue Community Center

## Hazard Characteristics

The following sections briefly describe relevant information for each profiled hazard. More information on Jackson County hazards can be found in Volume 1, Section 2 *Risk Assessment* and in the [Risk Assessment for Region 4, Southwest Oregon, Oregon SNHMP \(2020\)](#).

### Air Quality

The steering committee determined that the City's probability for poor air quality is **high** (which is the same as the County's Rating) and that their vulnerability to poor air quality is also **high** (which is the same as the County's Rating). *This hazard was not assessed in the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of air quality hazards, history, how they relate to future climate projections, as well as the location, extent, and probability of a potential event. Increases in wildfire conditions have shown an increasing potential for air quality hazards.

Additional information on air quality hazards can be found in Volume I, Section 2.

### Drought

The steering committee determined that the City's probability for drought is **high** (which is the same as the County's rating) and that their vulnerability to drought is **moderate** (which is the same as the County's rating). *The probability rating stayed the same and the vulnerability rating decreased since the previous version of this NHMP.*

Volume I, Section 3 describes the characteristics of drought hazards and their history, as well as the location, extent, and probability of a potential event. Due to the climate of Jackson County, past and present weather conditions have shown an increasing potential for drought.

The City receives its main water supply directly from the Rogue River and a series of local wells (there are about 1,000 private wells and about 15% of the population receive water from private water companies). For more information on the future of Shady Cove's water supply visit their [website](#).

Please review Volume I, Section 3 for additional information on this hazard.

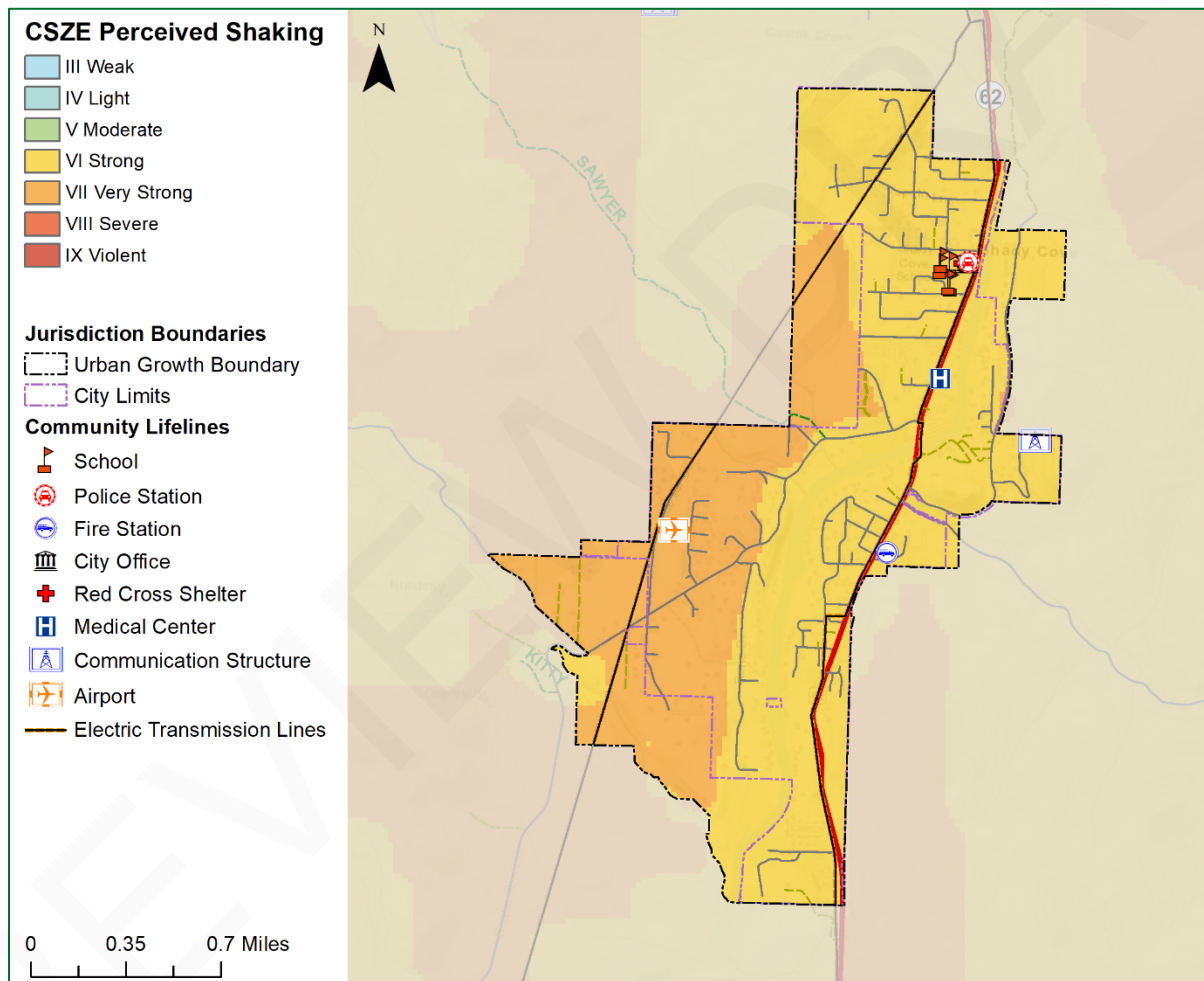
### Earthquake (Cascadia)

The steering committee determined that the City's probability for a Cascadia Subduction Zone (CSZ) earthquake is **moderate** (which is the same as the County's rating) and that their vulnerability to a CSZ earthquake is **high** (which is the same as the County's rating). *The probability rating decreased and the vulnerability rating stayed the same since the previous version of this NHMP.*

Volume I, Section 3 describes the characteristics of earthquake hazards and their history, as well as the location, extent, and probability of a potential event. Generally, an event that affects the County is likely to affect Shady Cove as well. The causes and characteristics of an earthquake event are appropriately described within Volume I, Section 3, as well as the location and extent of potential hazards. Previous occurrences are well documented within Volume I, Section 3 and the community impacts described by the County would generally be the same for Shady Cove as well.

Figure SA-3 displays perceived shaking hazards from a Cascadia Subduction Zone earthquake event. As shown in the figure below, the area of greatest concern within the City of Shady Cove (darker areas) is along the river and mountainous areas.

**Figure SA-3 Cascadia Subduction Zone Perceived Shaking**



Source: Oregon Partnership for Disaster Resilience. Oregon Department of Geology and Mineral Industries.

Note: To view detail click this [link](#) to access Oregon HazVu.

The local faults, the county’s proximity to the Cascadia Subduction Zone, potential slope instability, and the prevalence of certain soils subject to liquefaction and amplification combine to give the County a high-risk profile. Due to the expected pattern of damage resulting from a CSZ event, the Oregon Resilience Plan divides the State into four distinct

zones and places Jackson County predominately within the “Valley Zone” (Valley Zone, from the summit of the Coast Range to the summit of the Cascades). Within the Southwest Oregon region, damage and shaking is expected to be strong and widespread - an event will be disruptive to daily life and commerce and the main priority is expected to be restoring services to business and residents.<sup>5</sup>

As noted in the community profile, approximately 35% the housing in Shady Cove was built after 1990, which decreases the City’s vulnerability to the earthquake hazard. Information on specific public buildings’ (schools and public safety) estimated seismic resistance, determined by DOGAMI in 2007, is shown in Table SA-5; each “X” represents one building within that ranking category. Of the facilities evaluated by DOGAMI using a Rapid Visual Survey (RVS), two (2) have a high (greater than 10% chance) collapse potential and zero (0) have a very high (100% chance) collapse potential.

In addition to building damages, utility (electric power, water, wastewater, natural gas), and transportation systems (bridges, pipelines) are also likely to experience significant damage. There is a low probability that a major earthquake will result in failure of upstream dams like Lost Creek Dam.

Utility systems will be significantly damaged, including damaged buildings and damage to utility infrastructure, including water and wastewater treatment plants and equipment at high voltage substations (especially 230 kV or higher which are more vulnerable than lower voltage substations). Buried pipe systems will suffer extensive damage with approximately one break per mile in soft soil areas. There would be a much lower rate of pipe breaks in other areas. Restoration of utility services will require substantial mutual aid from utilities outside of the affected area.

**Table SA-5 Rapid Visual Survey Scores**

Facility	Site ID*	Level of Collapse Potential			
		Low (< 1%)	Moderate (>1%)	High (>10%)	Very High (100%)
<b>Schools</b>					
Shady Cove School (Eagle Point SD 9) (37 Schoolhouse Ln)	Jack_sch45	X		X	
<b>Public Safety</b>					
Jackson County Fire District #4 (21200 Crater Lake Hwy) - <b>See Mitigation Successes</b>	Jack_fir01			X	

Source: DOGAMI 2007. Open File Report 0-07-02. Statewide Seismic Needs Assessment Using Rapid Visual Assessment.  
 “\*” – Site ID is referenced on the [RVS Jackson County Map](#)

<sup>5</sup> Ibid.

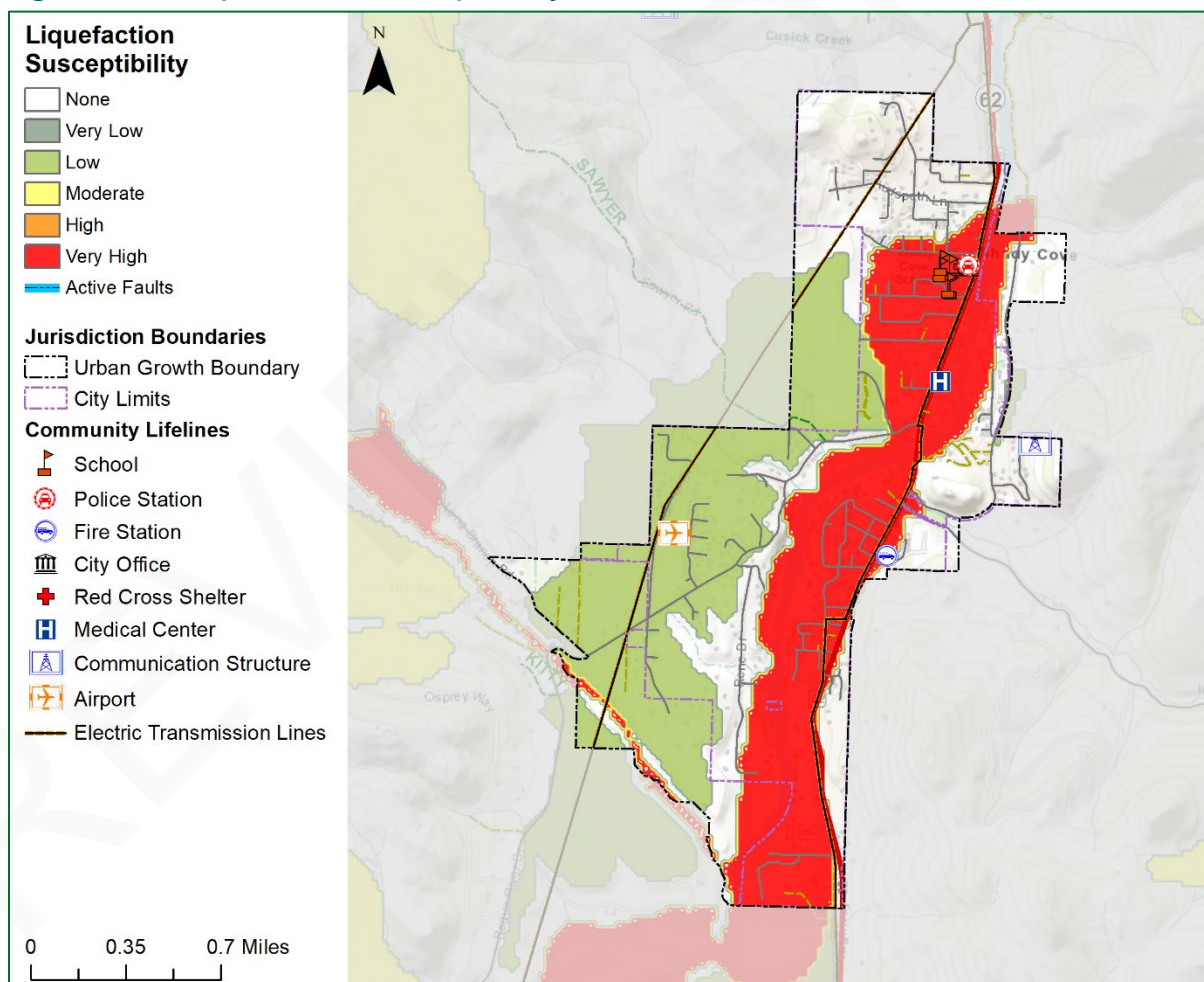
## Earthquake (Crustal)

The steering committee determined that the City's probability for a crustal earthquake is **low** (which is the same as the County's rating) and that their vulnerability to crustal earthquake is **moderate** (which is higher than the County's rating). *These ratings have not changed since the previous version of this NHMP.*

Volume I, Section 3 describes the characteristics of earthquake hazards and their history, as well as the location, extent, and probability of a potential event. Generally, an event that affects the County is likely to affect Shady Cove as well. The causes and characteristics of an earthquake event are appropriately described within Volume I, Section 3, as well as the location and extent of potential hazards. Previous occurrences are well-documented within Volume I, Section 3 and the community impacts described by the County would generally be the same for Shady Cove as well.

Figure SA-4 shows the liquefaction risk to the community lifelines and historic structures that were identified in Table SA-4 as well as the state historic building inventory.

**Figure SA-4 Liquefaction Susceptibility**



Source: Oregon Partnership for Disaster Resilience. Oregon Department of Geology and Mineral Industries.

Note: To view detail click this [link](#) to access Oregon HazVu.

Earthquake-induced damages are difficult to predict and depend on the size, type, and location of the earthquake, as well as site-specific building and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any site. In many major earthquakes, damages have primarily been caused by the behavior of the soil.

### **Vulnerability Assessment**

Due to insufficient data and resources, Shady Cove is currently unable to perform a quantitative risk assessment, or exposure analysis, for earthquake (Cascadia subduction zone and crustal) hazards. Identified community lifelines that are exposed to this hazard are shown in Table SA-4. Note that even if a facility has exposure, *it does not mean there is a high risk (vulnerability)*. No development changes affected the jurisdiction's overall vulnerability to this hazard.

Please review Volume I, Section 2 for additional information on this hazard.

## **Emerging Infectious Disease**

The steering committee determined that the City's probability for emerging infectious disease is **moderate** (which is the same as the County's rating) and that their vulnerability is **high** (which is the same as the County's rating). *These ratings have not changed since the previous version of this NHMP.*

Emerging infectious diseases are those that have recently appeared in a population or those whose incidence or geographic range is rapidly increasing or threatens to increase. Emerging infections may be caused by biological pathogens (e.g., virus, parasite, fungus, or bacterium) and may be: previously unknown or undetected biological pathogens, biological pathogens that have spread to new geographic areas or populations, previously known biological pathogens whose role in specific diseases was previously undetected, and biological pathogens whose incidence of disease was previously declining but whose incidence of disease has reappeared (re-emerging infectious disease).<sup>6</sup>

Volume I, Section 2 describes the characteristics of emerging infectious disease and their history, as well as the location, extent, and probability of a potential event within the region. Generally, an event that affects the County is likely to affect the City as well.

Please review Volume I, Section 2 for additional information on this hazard.

## **Flood**

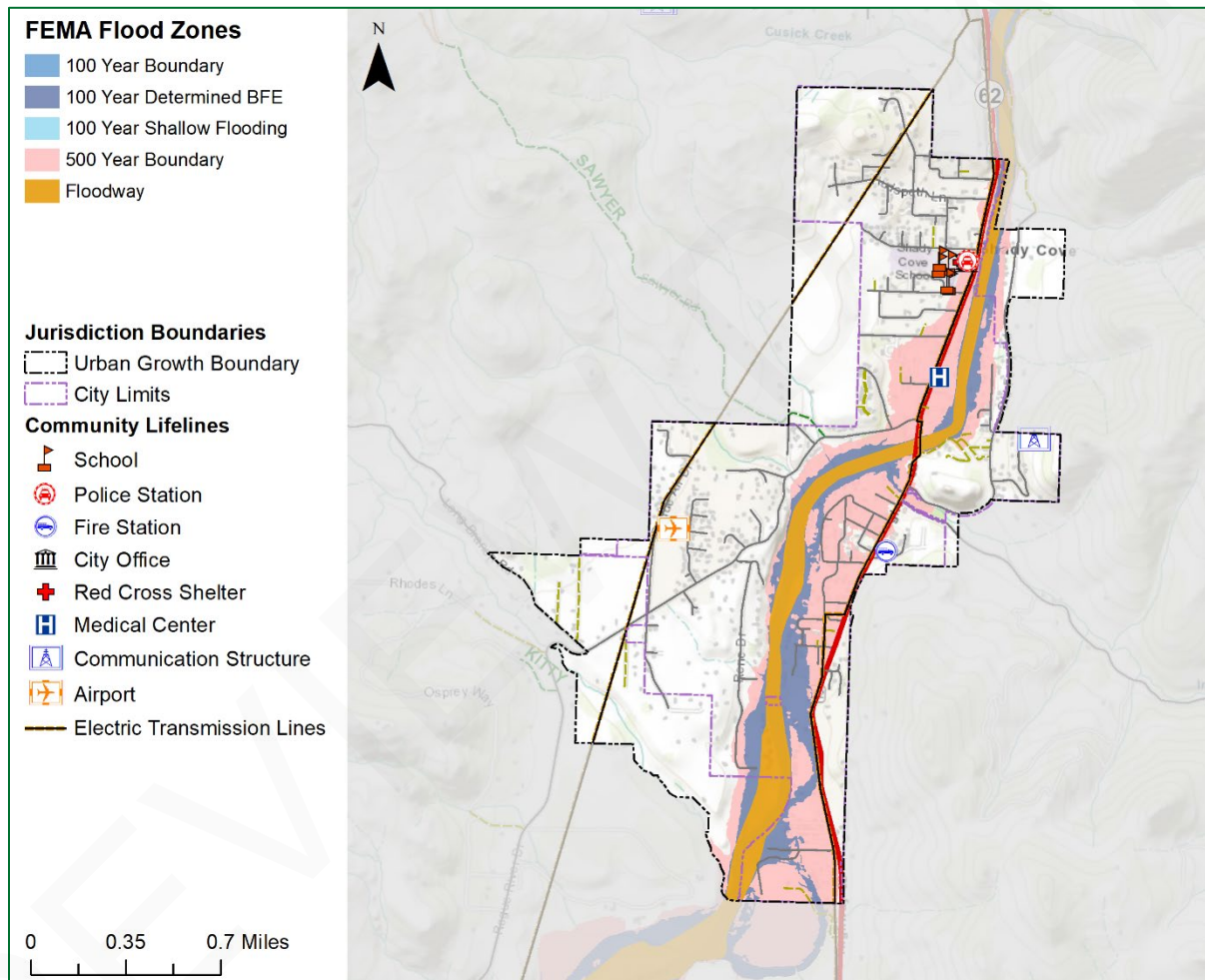
The steering committee determined that the City's probability for flood is **high** (which is the same as the County's rating) and that their vulnerability to flood is **high** (which is higher than the County's rating). *These ratings have not changed since the previous version of this NHMP.*

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<sup>6</sup> Baylor College of Medicine, *Emerging Infectious Disease*, URL: <https://www.bcm.edu/departments/molecular-virology-and-microbiology/emerging-infections-and-biodefense/emerging-infectious-diseases>, accessed September 17, 2017.

Volume I, Section 2 describes the characteristics of flood hazards and their history, as well as the location, extent, and probability of a potential event. Portions of Shady Cove have areas of floodplains (special flood hazard areas, SFHA) closely concentrated around the Rogue River (Figure SA-5). According to the [Jackson County Flood Insurance Study \(2018\)](#) the Rogue River is the chief source of flooding. Indian Creek may flood during exceptionally high water along the Rogue River. The Highway 62 bridge, which provides an essential connection between the natural resources to the north and east and the industries of the Rogue Valley to the south, was impacted by the 1964 floods. Furthermore, other portions of Shady Cove, outside of the mapped floodplains, are also subject to flooding from local storm water drainage.

**Figure SA-5 Flood Hazard Zones**



Source: Oregon Partnership for Disaster Resilience. Oregon Department of Geology and Mineral Industries.

Note: To view detail click this [link](#) to access Oregon HazVu.

The City is at risk from two types of flooding: riverine and urban. Riverine flooding occurs when streams overflow their banks and inundate low-lying areas. This is a natural process that adds sediment and nutrients to fertile floodplain areas. It usually results from prolonged periods of precipitation over a wide geographic area. Most areas are generally flooded by low velocity sheets of water. Urban flooding occurs as land is converted to impervious

surfaces and hydrologic systems are changed. Precipitation is collected and transmitted to streams at a much faster rate, causing floodwaters that rise rapidly and peak with violent force. During urban flooding, storm drains can back up and cause localized flooding of streets and basements.

The Rogue River is the chief source of flooding events in Shady Cove. Shady Cove is also at risk from flooding from failure of the Lost Creek Dam (also known as the William L. Jess Dam). The dam is owned and operated since 1977 by the US Army Corps of Engineers (USACE) and is classified as a high hazard potential dam. A worst-case scenario failure has the potential to have flows nearly 100 feet above normal river level within one hour of failure.<sup>7</sup> These flooding events and subsequent damages are commonly caused by the Indian Creek and Long Branch Creek.

### **Vulnerability Assessment**

Due to insufficient data and resources, Shady Cove is currently unable to perform a quantitative risk assessment, or exposure analysis, for this hazard. Identified community lifelines that are exposed to this hazard are shown in Table SA-4. Note that even if a facility has exposure, *it does not mean there is a high risk (vulnerability)*. No development changes affected the jurisdiction's overall vulnerability to this hazard.

Floods can have a devastating impact on almost every aspect of the community, including private property damage, public infrastructure damage and economic loss from business interruption. It is important for the City to be aware of flooding impacts and assess its level of risk.

The economic losses due to business closures often total more than the initial property losses that result from flood events. Business owners and their employees are significantly impacted by flood events. Direct damages from flooding are the most common impacts, but indirect damages, such as diminished clientele, can be just as debilitating to a business. Following the January 1997, flood businesses in Shady Cove suffered direct damage from high water.

The [Jackson County Flood Insurance Study](#) (January 19, 2018) has a brief history of flooding in Jackson County and Shady Cove (Volume I, Section 3). No critical or essential facilities are in the floodplain. There is a central bridge located inside the floodplain (Highway 62 bridge, lost during the 1964 flood; however, the Lost Creek Dam was built after the 1964 flood, and now mitigates risk to this bridge).

Highway 62 is a major transportation route between Medford and smaller cities to the north of Jackson County. If major flooding affected all the bridges in Shady Cove, traffic flow in and out of the City would be significantly affected, but would not cut off all routes. The amount of property in the flood plain is not a large area (a portion of approximately 273 tax lots) but damage could be significant as it would affect residential, commercial, and public property. Floodwaters can affect building foundations, seep into basements or cause damage to the

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<sup>7</sup> Wright, Stacy, Identification of Areas of Mitigation Interest (AoMI) and Development of Mitigation Strategies for Shady Cove and Eagle Point, OR. 2016.

interior, exterior, and contents of buildings, dependent upon the velocity and depth of the water and by the presence of floating debris. The City sewer system can overflow during flood events and cause further property damage.

For mitigation planning purposes, it is important to recognize that flood risk for a community is not limited only to areas of mapped floodplains. Other portions of Shady Cove outside of the mapped floodplains may also be at relatively high risk from over bank flooding from streams too small to be mapped by FEMA or from local storm water drainage.

**National Flood Insurance Program (NFIP)**

FEMA last updated the Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) in 2018 (effective January 19, 2018). Rogue River’s Class Rating within the Community Rating System (CRS) is an 8. The City complies with the NFIP through enforcement of their flood damage prevention ordinance and their floodplain management program.

The Community Repetitive Loss record for Rogue River identifies two (2) Repetitive Loss Properties<sup>8</sup> (both single-family residences) and zero (0) Severe Repetitive Loss Properties.<sup>9</sup> Table SA-6 gives details for these properties. Figure SA-5 gives the general location of these properties.

**Table SA-6 Repetitive Loss Properties**

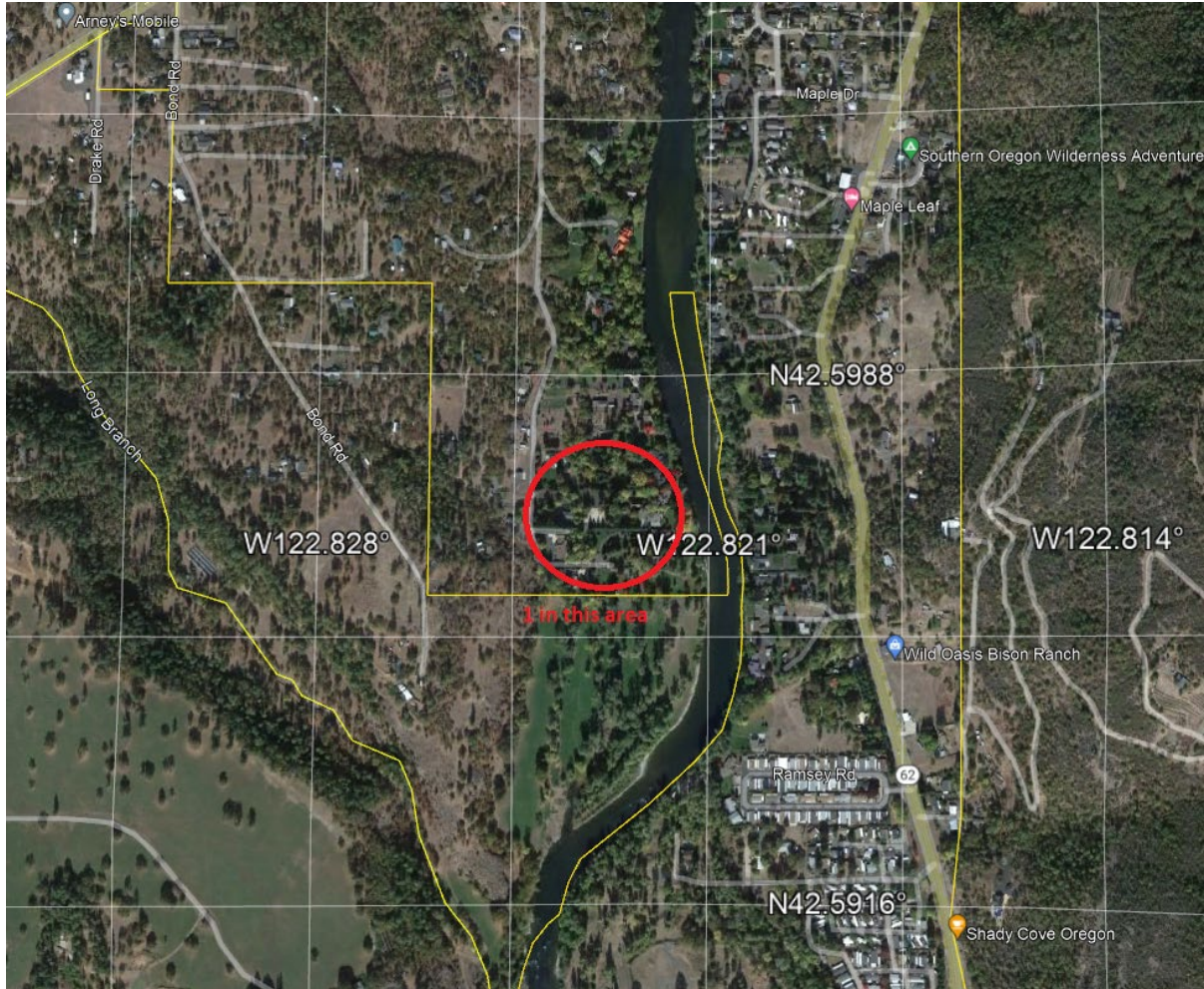
RL or SRL Property	Jurisdiction Name	Insured?	Flood Zone	Occupancy	Total Paid Claims	Total Paid Amount
RL	Shady Cove	YES	C	Single-Family	3	\$40,737.55
<b>Total</b>					<b>3</b>	<b>\$40,737.55</b>

Source: FEMA Region X, Regional Flood Insurance Liaison, email February 13, 2023.

<sup>8</sup> A Repetitive Loss (RL) property is any insurable building for which two or more claims of more than \$1,000 were paid by the National Flood Insurance Program (NFIP) within any rolling ten-year period, since 1978. A RL property may or may not be currently insured by the NFIP.

<sup>9</sup> A Severe Repetitive Loss (SRL) property is a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding \$5,000 and with cumulative amount of such claims payments exceeding \$20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

Figure SA-6 Repetitive Loss Properties



Source: FEMA Region X, Regional Flood Insurance Liaison, email February 13, 2023.

Please review Volume I, Section 2 for additional information on this hazard.

## Landslide

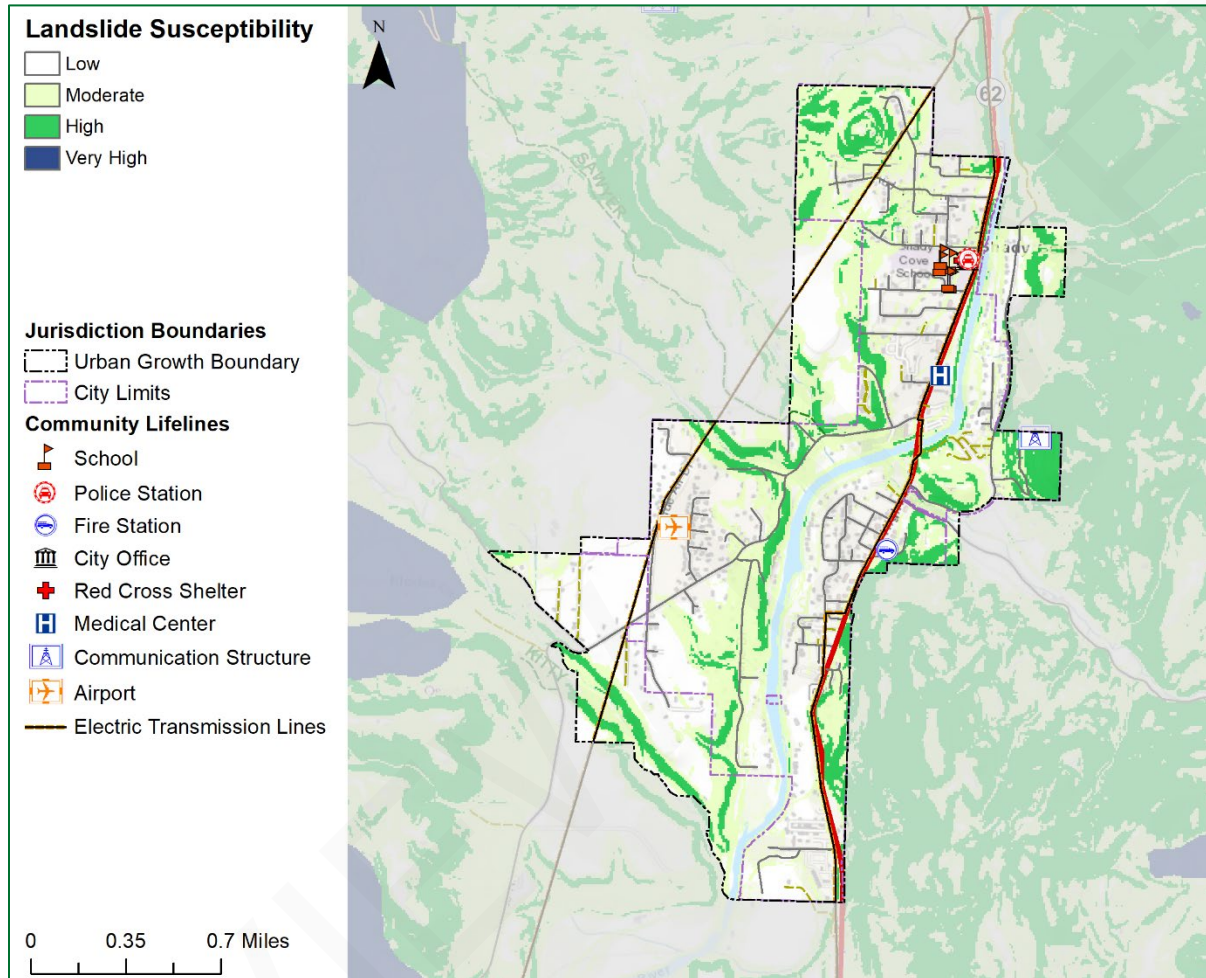
The steering committee determined that the City's probability for landslide is **high** (which is the same as the County's rating) and that their vulnerability to landslide is **high** (which is higher than the County's rating). *These ratings have not changed since the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of landslide hazards and their history, as well as the location, extent, and probability of a potential event within the region. The potential for landslide in Shady Cove is high. Critical transportation routes into the City may be susceptible to landslides. The City is concerned about roads that are subsiding along Highway 62 south of the City.

Landslide susceptibility exposure for Shady Cove is shown in Figure SA-6. Most of Shady Cove demonstrates a low to moderate susceptibility to landslide exposure, with corridors of high

susceptibility. Approximately 13% of Shady Cove has high, and approximately 34% moderate, landslide susceptibility exposure.<sup>10</sup> *Note that even if a jurisdiction has a high percentage of area in a high or very high landslide exposure susceptibility zone, this does not mean there is a high risk, because risk is the intersection of hazard and assets.*

**Figure SA-7 Landslide Susceptibility Exposure**



Source: Oregon Partnership for Disaster Resilience. Oregon Department of Geology and Mineral Industries.

Note: To view detail click this [link](#) to access Oregon HazVu.

### Vulnerability Assessment

Due to insufficient data and resources, Shady Cove is currently unable to perform a quantitative risk assessment, or exposure analysis, for this hazard. Identified community lifelines that are exposed to this hazard are shown in Table SA-4. No development changes affected the jurisdiction’s overall vulnerability to this hazard.

Please review Volume I, Section 3 for additional information on this hazard.

<sup>10</sup> DOGAMI Open-File Report, O-16-02, Landslide Susceptibility Overview Map of Oregon (2016)

## Severe Weather

Severe weather can account for a variety of intense and potentially damaging weather events. These events include extreme heat events, windstorms, and winter storms. The following section describes the unique probability and vulnerability of each identified weather hazard. Other more abrupt or irregular events such as hail are also described in this section.

### Extreme Heat Event

The steering committee determined that the City's probability for extreme heat event is **high** (which is the same as the County's Rating) and that their vulnerability to an extreme heat event is **moderate** (which is the same as the County's Rating). *This hazard was not assessed in the previous version of this NHMP.*

Jackson County's NHMP Volume I, Section 2, adequately describes the causes and characteristics of extreme heat, as well as the history, location, extent, and probability of a potential event and how extreme heat relates to future climate projections. Generally, an event that affects the County is likely to affect the City as well. A severe heat episode or "heat wave" occurs about every two to three years, and typically lasting two to three days but can last as many as five days. A severe heat episode can be defined as consecutive days of temperatures in the high 90s and above 100. Severe heat hazard in Southern Oregon can be described as the average number of days with temperatures greater than or equal to 90-degrees Fahrenheit.<sup>11</sup>

Extreme heat events can and have occurred in the city, and while they typically do not cause loss of life, they are becoming more frequent and have the potential to impact economic activity as well as quality of life and have caused threat to life in some cases.

See the Risk Assessment (Volume I, Section 2) for additional information on this hazard.

### Windstorm

The steering committee determined that the City's probability for windstorm is **high** (which is the same as the County's rating) and that their vulnerability to windstorm is **moderate** (which is the same as the County's rating). *The probability rating stayed the same and the vulnerability rating decreased since the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of windstorm hazards and their history, as well as the location, extent, and probability of a potential event within the region. Because windstorms typically occur during winter months, they are sometimes accompanied by ice, freezing rain, flooding, and very rarely, snow. Other severe weather events that may accompany windstorms, including thunderstorms, hail, lightning strikes, and tornadoes are generally negligible for Shady Cove.

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<sup>11</sup> DLCD. *Oregon State Natural Hazard Mitigation Plan*. 2020.

Volume I, Section 2 describes the impacts caused by windstorms, including power outages, downed trees, heavy precipitation, building damages, and storm-related debris. Additionally, transportation and economic disruptions result as well.

Damage from high winds generally has resulted in downed utility lines and trees. Electrical power can be out anywhere from a few hours to several days. Outdoor signs have also suffered damage. If the high winds are accompanied by rain (which they often are), blowing leaves and debris clog drainage-ways, which in turn causes localized urban flooding.

Please review Volume I, Section 2 for additional information on this hazard.

### **Winter Storm (Snow/Ice)**

The steering committee determined that the City's probability for winter storm is **high** (which is the same as the County's rating) and that their vulnerability to winter storm is **high** (which is higher than as the County's rating). *These ratings have not changed since the previous version of this NHMP.*

Volume I, Section 3 describes the characteristics of winter storm hazards and their history, as well as the location, extent, and probability of a potential event within the region. Severe winter storms can consist of rain, freezing rain, ice, snow, cold temperatures, and wind. They originate from troughs of low pressure offshore that ride along the jet stream during fall, winter, and early spring months. Severe winter storms affecting the City typically originate in the Gulf of Alaska or in the central Pacific Ocean. These storms are most common from November through March.

Major winter storms can and have occurred in the Shady Cove area and while they typically do not cause significant damage, they are frequent and have the potential to impact economic activity. Road and rail closures due to winter weather are uncommon occurrences but can interrupt commuter and commercial traffic. The City maintains roads with sanding equipment and County snow plows.

Please review Volume I, Section 3 for additional information on this hazard.

### **Volcanic Event**

The steering committee determined that the City's probability for a volcanic event is **low** (which is the same as the County's rating) and that their vulnerability to a volcanic event is **low** (which is the same as the County's rating). *These ratings have not changed since the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of volcanic hazards and their history, as well as the location, extent, and probability of a potential event within the region. Generally, an event that affects the County is likely to affect Shady Cove as well. Shady Cove is very unlikely to experience anything more than volcanic ash during a volcanic event.

Please review Volume I, Section 2 for additional information on this hazard.

## Wildfire

The steering committee determined that the City's probability for wildfire is **high** (which is the same as the County's rating) and that their vulnerability to wildfire is **high** (which is higher than the County's rating). *The probability and vulnerability ratings stayed the same since the previous version of this NHMP.*

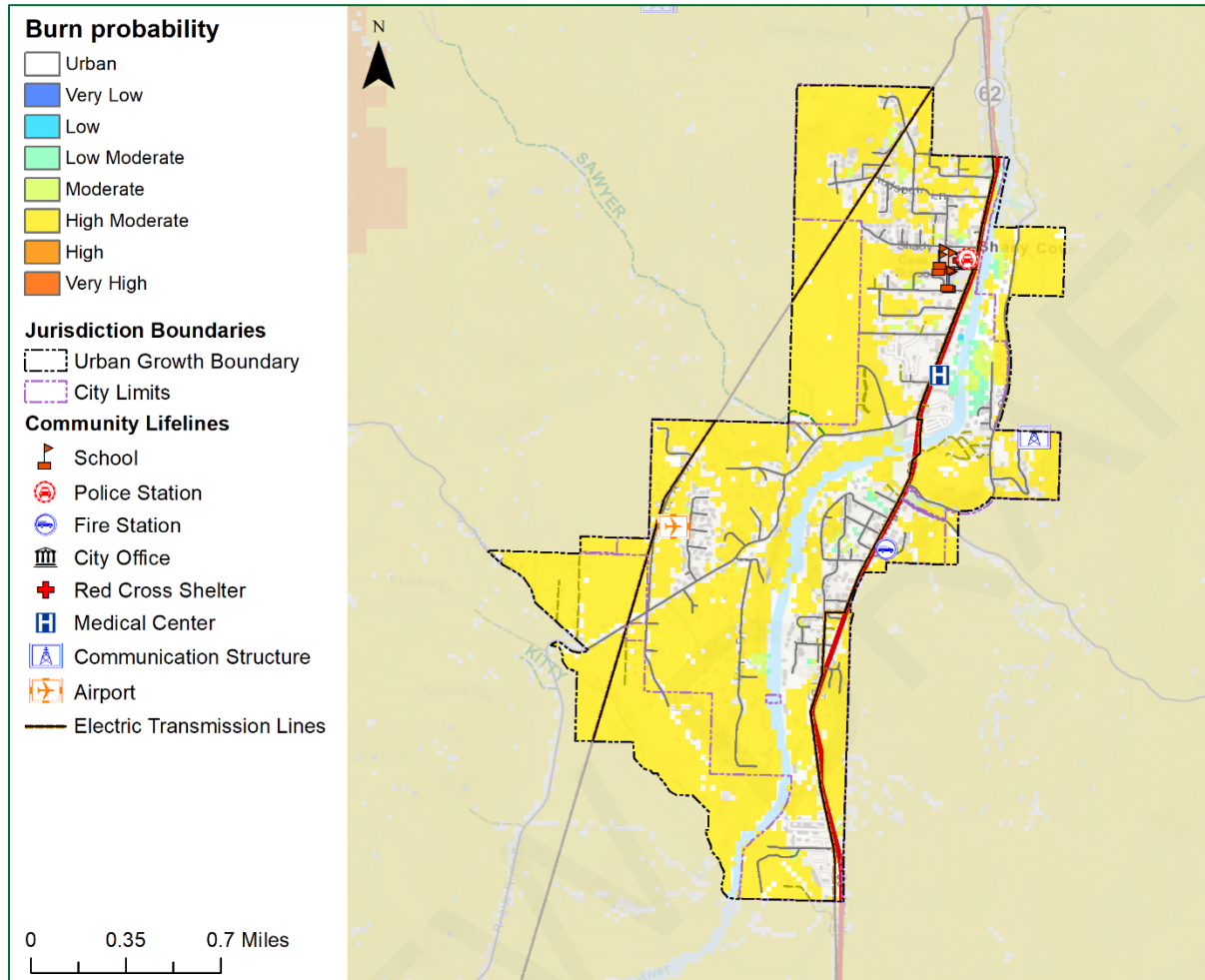
Volume I, Section 3 describes the characteristics of wildland fire hazards and their history, as well as the location, extent, and probability of a potential event within the region. The location and extent of a wildland fire vary depending on fuel, topography, and weather conditions. There has been one large wildland fire in the Shady Cove area, the South Obenchain Fire in 2020. The South Obenchain Fire, a 32,600-acre fire, spread from Eagle Point to Shady Cove and Butte Falls. The fire destroyed 33 residences and 56 other structures. Weather and urbanization conditions are primarily at cause for the hazard level. Wildfires threaten subdivisions and mobile home parks on the edge of the City.

The potential community impacts and vulnerabilities described in Volume I, Section 3 are generally accurate for the City as well. The [Rogue Valley Integrated Community Wildfire Protection Plan](#) (RVIFP, updated 2017), assesses wildfire risk, maps wildland urban interface areas, and includes actions to mitigate wildfire risk. The City is included in the RVIFP and will update the City's wildfire risk assessment if the fire plan presents better data during future updates (an action item is included within Volume I, Section 4 to participate in updates to the integrated fire plan and to continue to maintain and update their RVIFP). Shady Cove is within an area of high wildfire prone urban landscape. Current wildfire mitigation activities include defensible space and fuels reduction projects. The City hereby incorporates the RVIFP into this addendum by reference to provide greater detail to sensitivity and exposure to the wildfire hazard.

Property can be damaged or destroyed with one fire as structures, vegetation, and other flammables easily merge to become unpredictable and hard to manage. Other factors that affect ability to effectively respond to a wildfire include access to the location and to water, response time from the fire station, availability of personnel and equipment, and weather (e.g., heat, low humidity, high winds, and drought).

Figure SA-7 show burn probability in Shady Cove for community lifelines and historic buildings.

Figure SA-8 Burn Probability



Source: Oregon Partnership for Disaster Resilience. USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA)

Note: To view detail click this [link](#) to access Oregon Explorer's CWPP Planning Tool.

### Vulnerability Assessment

Due to insufficient data and resources, Shady Cove is currently unable to perform a quantitative risk assessment, or exposure analysis, for this hazard. Identified community lifelines that are exposed to this hazard are shown in Table SA-4. Note that even if a facility has exposure, *it does not mean there is a high risk (vulnerability)*. No development changes affected the jurisdiction's overall vulnerability to this hazard.

Please review Volume I, Section 3 for additional information on this hazard.

# Attachment A: Public Involvement Summary

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Members of the steering committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of Shady Cove (Volume III, Appendix F).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement (see below) was provided from **Month Day through Month Day** on the City's website. There were **XX [to be updated following public comment period]** comments provided. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume III, Appendix B.

## Website Posting

Posting to be inserted

## Shady Cove Steering Committee

Steering committee members possessed familiarity with the community of Shady Cove and how it is affected by natural hazard events. The steering committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The steering committee met formally on the following date:

### **Meeting #1: Shady Cove steering committee, May 3, 2023 (via Zoom)**

During this meeting, the steering committee reviewed the previous NHMP, and were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The steering committee:

- Updated recent history of hazard events in the city.
- Reviewed and confirmed the NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Discussed development changes and community lifelines.
- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.
- Reviewed and updated their existing mitigation strategy (actions).
- Reviewed and updated their implementation and maintenance program.

### **Meeting Attendees:**

- Convener, Tom Corrigan, City Administrator
- Kathy Nuckles, Council President
- Greg Winfrey, Chief (retired) Jackson County Fire District #4
- Ed Mayer, Emergency Management Consultant
- Spencer McMahan, Public Works
- Rowan Fairchild, Planner (RVCOG)

## AGENDA

**Meeting:** Jackson County NHMP Update: Shady Cove Addendum  
**Date:** 5/3/23  
**Time:** 2:00pm – 3:30pm  
**Location:** Zoom (link [here](#))

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### Meeting Goals:

- To share information that the student team needs to draft jurisdictional addenda, namely:
  - To review and update Shady Cove’s hazard vulnerability assessment
  - To review and update Shady Cove’s action items

### I. Welcome and Introductions

### II. Development Information and Community Lifelines

- a. Development information (if not already provided)
- b. Review Community Lifelines for any missed facilities

### III. Jurisdiction-Specific Risk Assessment

- a. Review Shady Cove-specific Hazard Vulnerability Assessment (HVA)

### IV. Jurisdiction-Specific Mitigation Strategy

- a. Update action items
- b. Prioritize action items

### V. Overview of Implementation and Maintenance

### VI. Next Steps

- a. We will send your jurisdiction’s addendum to you for your review and give you two weeks to review the addendum and provide us with any edits

# Attachment B: Action Item Changes

Volume I, Section 3 provides a summary list of actions for the City. Below is an accounting of the major changes to actions since the previous NHMP.

## *Renumbered 2017 Actions:*

<b>2017 Action Item</b>	<b>2023 Action Item</b>
Multi-Hazard #1	Multi-Hazard 1.2
Multi-Hazard #2	Multi-Hazard 1.3
Earthquake #1	Earthquake 4.1
Flood #1	Flood 6.1
Flood #2	Flood 6.2
Flood #3	Flood 6.3
Flood #5	Flood 6.5
Flood #6	Flood 6.6
Severe Weather #1	Severe Weather 8.1
Severe Weather #2	Severe Weather 8.2
Wildfire #1	Wildfire 10.1
Wildfire #2	Wildfire 10.2
Wildfire #3	Wildfire 10.3
Wildfire #4	Wildfire 10.4
Wildfire #5	Wildfire 10.5

## **Previous NHMP Actions Completed:**

- (2017) FL #4

## **New NHMP Actions:**

The following actions were added to the 2023 NHMP:

- Multi-Hazard 1.1
- Air Quality 2.1
- Flood 6.4
- Severe Weather 8.3

Action items were reviewed, revised, and prioritized (indicated in **bold** text). Major changes are indicated below:

- **MH #1: This action is ongoing.**
- **MH #2: This action is ongoing.**

- EQ #1: This action is ongoing and was reworded for clarity.
- FL #1: This action is ongoing.
- FL #2: This action is ongoing and is reworded for clarity.
- FL# 3: This action is ongoing.
- FL #4: This action is completed.
- FL #5: This action is ongoing and was reworded for clarity.
- FL #6: This action is ongoing.
- SW #1: This action is ongoing and was reworded for specificity.
- SW #2: This action is ongoing and was reworded for clarity.
- WF #1: This action is ongoing and was reworded for clarity.
- WF #2: This action is ongoing.
- WF #3: This action is ongoing.
- WF #4: This action is ongoing.
- WF #5: This action is ongoing.