

CITY OF LYONS ADDENDUM

Purpose

This document serves as the City of Lyons's Addendum to the Linn County Multi-Jurisdictional Natural Hazards Mitigation Plan (MJ-NHMP, NHMP). The purpose of this addendum is to guide the implementation of mitigation actions by Lyons to improve the resilience of the community. Please note that mitigation planning is a long-term endeavor—one that requires broad internal involvement and community engagement to be successful. Finally, please refer to the information contained in Volume I (Basic Plan) of this NHMP which serves as the plan foundation and Volume II which provides additional supporting information for the plan.

Plan Process, Participation, and Adoption

Prior to this update, Lyons has participated in a natural hazard mitigation planning process and has a pre-existing addendum to the Linn County NHMP.

During 2023 and 2024 Linn County partnered with the Oregon Department of Land Conservation and Development (DLCD) and the Oregon Department of Emergency Management (ODEM), and Linn County cities, including Lyons, to update their addendum to the Linn County Natural Hazard Mitigation Plan, which expired May 23, 2023.

By developing this addendum to the Linn County MJ-NHMP, locally adopting it, and having it approved by FEMA, the City of Lyons will regain eligibility for FEMA Hazard Mitigation Assistance (HMA) funding that includes three programs: Building Resilient Infrastructure and Communities (BRIC), formerly the Pre-Disaster Mitigation grant program, Hazard Mitigation Grant Program (HMGP), and the Flood Mitigation Assistance (FMA) program. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP-5327-05-P-DLCD).

The City of Lyons joined the Linn County MJ-NHMP update by executing an intergovernmental agreement with DLCD on 2/12/2024. On 2/7/2024, 3/13/2024, 4/3/2024, and 10/23/2024, Micki Valentine, Lyons City Manager, participated in meetings facilitated by DLCD, including conducting a risk assessment exercise with other county jurisdictions that included a Hazard Vulnerability Assessment ranking. City staff met again with DLCD on 7/29/2024, to update this addendum.

Lyons staff promoted the NHMP survey and outreach efforts throughout the plan update, including public posts on the City's website and Facebook page on August 29, 2024, to distribute the plan update public survey to interested parties in and around Lyons.

The Linn County MJ-NHMP was approved by FEMA on [Month] [Day], 2025 and the Lyons Addendum was adopted via resolution on [Month] [Day], 2025. This NHMP is effective through [Month] [Day], 2030.

The Linn County NHMP, and Lyons Addendum, are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private sector, and regional organizations, and public officials. Lyons’s City Manager guided the process of developing the plan and engaged the Public Works Director, City Council members, and the Mayor during the process of developing the plan. For more information on all parties involved in the planning process, see the Acknowledgements and Plan Summary sections, and Planning and Public Process (Appendix A).

The Lyons City Manager is the designated Convener of this addendum. The Convener will take the lead in implementing, maintaining, and updating the addendum to the Linn County NHMP in collaboration with Linn County.

The City Manager and the DLCD project manager revised the Lyons Addendum with particular focus on the specific hazard history, risk assessment, and mitigation strategy for the City of Lyons. During the update process city staff and other participants provided additional information on potential funding sources, action item prioritization, local resource and capacity restraints.

The City of Lyons advisory group included the following individuals:

- Micki Valentine, City Manager
- Lloyd Valentine, Mayor
- Jessica Ritchie, Pro Tem
- Mike Wagner, Councilor
- Diane Hyde, Councilor
- Amy Thrasher, Councilor
- Richard Berkey, Public Works

Lyons staff used multiple approaches to engage the public. City staff also presented the draft plan to the City Council during an open public council session. The City Council was closely involved throughout the development of the plan and served as the local oversight body for the plan’s development. The City also participated in countywide community engagement activities described in Volume I, Section 4 and in Appendix A

The Convener for Lyons will also remain active in the county’s implementation and maintenance process (see Volume I, Section 4 for more information).

Risk Assessment

A risk assessment is intended to provide the “factual basis for activities proposed in the strategy to reduce losses from identified hazards.”²⁰ This section of the NHMP addendum in conjunction with the county-wide risk assessment in Volume I can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – *Areas Subject to Natural Hazards*.

²⁰ 44 CFR 201.6(2)(i)

Community Profile

This section provides information on city specific assets and populations. For additional information on the characteristics of Lyons, in terms of geography, environment, population, demographics, employment and economics, housing, and transportation see Volume III, Appendix B: Community Profile. 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.

Community Characteristics

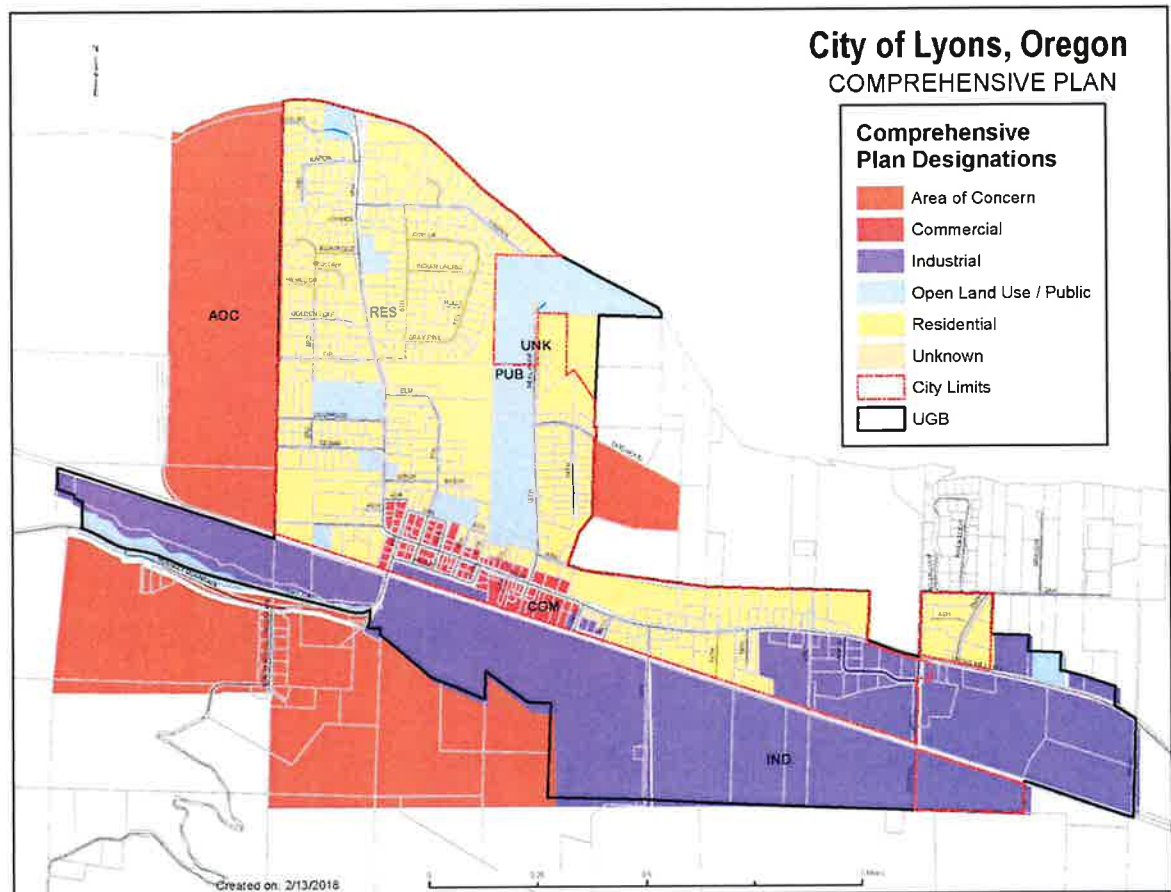
Lyons is located in Linn County, approximately 26 miles southeast of Salem and 32 miles northeast of Albany. Lyons was founded in 1880 and legally incorporated in 1958. It occupies an area of 0.88 square miles (563.2 acres). Lyons experiences a moderate climate. In August, the average high temperature is 74°F, and the average low temperature is 49°F. Wintertime temperatures in January range from an average high of 42 degrees, and an average low of 33°F. Lyons receives an average annual precipitation of 56 inches.

The North Santiam River runs along the northern boundary of Lyons. Several small ponds are surrounded by county and municipal parkland near the eastern edge of town. Trask Creek collects drainage from the southern hills along the south edge of the city. Lyons is located on mostly flat land, with elevations increasing slightly on the south side of town, with ridges surrounding Lyons to the south and northeast. The unincorporated community of Mehama is located on the north bank of the North Santiam River across from Lyons. The landscape surrounding Lyons consists of farmland in level areas, and forestland on surrounding slopes.

The Population Research Center at Portland State University lists Lyons's 2023 population at 1,203. This represents a minimal decrease from 2020 (1,207) and small increase from 2015 (1,160). The median age in Lyons is 55, and it is one of the cities in Linn County with the greatest number of residents over 64 per hundred residents potentially in the workforce, also known as the Old-age Dependency Ratio. For more demographic information, refer to Appendix B.

Historically, Lyons was a timber community. Now, about 85% of the labor force in Lyons is employed in manufacturing and services. Lyons also serves as a bedroom community for major employers in the surrounding area. The median household income in Lyons in 2022 was \$94,250 based on US Census ACS 5-year estimates, the third highest in Linn County. 85.4% of the houses in Lyons are single family units, the second highest in the county. Since 2015, there has been a 13% decrease in the number of mobile homes in Lyons. For more economic and housing information, refer to Appendix B.

Figure LY-1. City of Lyons Comprehensive Plan Map



Source: City of Lyons Comprehensive Plan [Appendix B \(codepublishing.com\)](#)

Critical and Important Facilities

Lyons's critical and important facilities include the following:

- Lyons City Hall, 449 5th St.
- Lyons City Shop, 725 N 13th St.
- Lyons Rural Fire Protection District Station 550, 1114 Main St.
- Lyons-Mehama Water District, 442 Locust St.
- Mari-Linn Elementary School, 643 5th St.

The City also identified the Lyons Public Library and Lyons Post Office as important community lifeline facilities in Lyons. City representatives also identified the Linn County Sheriff's office and the facilities of private power companies and fuel suppliers (Pacific Power, NW Natural Gas, and PC Energy Fuel Station) as important facilities located near Lyons.

City representatives specifically identified Santiam Valley Grange, Santiam Chapel, Canyon Bible Fellowship, and St. Patrick's Church & Hall as providing essential support for response and recovery efforts. Private facilities that provide community lifeline support are analyzed in the DOGAMI Multi-Hazard Risk Report, Appendix E; see section 2.4 and Table C-3. Lifeline

Risk by Linn County Community for more information. The DOGAMI analysis identified high-occupancy buildings, a post office, and churches.

Transportation

Main transportation corridors to and from Lyons include Highway 226, which connects with Highway 20 to provide the main access to and from Albany, located to the southwest. Highway 22 to the north provides east/west access to and from Stayton to the west, and Salem to the northwest. Highways 22 and 226 provide connectivity to I-5. Highway 226 intersects with Highway 22 just north of Lyons, in Mehama, located on the north bank of the North Santiam River. East Lyons Mill City Drive diverges from Highway 226 in downtown Lyons and provides an additional east/west connection to Mill City, located 8 miles to the east. The North Santiam River Bridge between Lyons and Mehama forms the only connection between the two communities. Without an operational bridge, Lyons would have no access to Mehama or Highway 22.

Albany and Eastern Railroad Company (AERC) owns and operates the Mill City District railroad line, a railway that runs from Mill City to Lebanon and forms the southern boundary of Lyons. This railroad provides railroad transport to industrial sites in Lebanon and Albany.

| Road | Owner | Notes |
|-----------|-------|---|
| OR-22 | ODOT | East/West route across the N. Santiam River from the city |
| OR-20 | ODOT | East/west route to Albany |
| OR-226 | ODOT | North/South route that connects to both OR-20 and OR-22 |
| Rail line | AERC | Mill City District railroad line between Mill City and Albany via Lyons and Lebanon |

Cherriots is the public transit provider for Salem, Keizer, and the mid-Willamette Valley. The Cherriots Regional 30X bus stops at the Lyons Fire Station, providing transportation to and from Salem, Stayton, Mill City, and Gates.

Energy

Pacific Power supplies electricity to the Lyons. NW Natural Gas provides gas to the community. Lyons RFPD has an automatic backup generator for their facility. City-owned buildings do not have backup generators, but these are needed.

Water/Wastewater

The Lyons-Mehama Water District has a water storage capacity of approximately 1,850,000,000 gallons supplied by two storage reservoirs. There is additional water capacity available as needed from the Big Cliff Reservoir, located approximately 3 miles downstream from Detroit Lake.

There is no sanitary sewer system in Lyons. All properties are served by their own onsite septic system.

Emergency Services

The Linn County Sheriff provides police services. The Lyons Rural Fire Protection District provides fire and ambulance services.

Vulnerable Populations and Plans and Policies

Functional and Access Needs of Vulnerable Populations

Based on US Census American Community Survey estimates the percentage of people living in poverty in Lyons has worsened overall and also for those under 18 years old in particular. Poverty for children has significantly worsened in Lyons moving from 15% to in 2015 to 39.2% in 2022. The average age of residents of Lyons is among the highest in Linn County, reflecting an aging population relative to other cities in the county. On the other hand, in 2022 median household income was among the highest in the county. For more demographic and economic information, see Appendix B.

The city is home to one elementary school, Mari-Linn Elementary School, which serves elementary school students living in and around Lyons.

Plans and Policies

The Lyons Comprehensive Plan was first acknowledged by the Oregon Land Conservation and Development Commission in 1980. The City last amended the plan in 2003. Lyons last updated Chapter 903, which includes information pertaining to Statewide Planning Goal 7, Natural Hazards, in 2011. The City implements the plan through the City of Lyons Municipal Code, which was last revised May 28, 2024.

Lyons currently has the following plans that relate to natural hazard mitigation. These documents can currently be viewed through the City's [website](#):

- [Comprehensive Plan](#) (2003)
- [Municipal Development Code](#) (January, 2021)
 - [Flood Damage Prevention](#)
- [City Storm Drainage Plan](#) (May, 2011) [and Street Storm Drain Design Standards](#) (2021)

In addition to integration through existing plans and policies to achieve mitigation, further described in Section 4: Plan Implementation and Maintenance, continued coordination during the Plan Maintenance period between the county and jurisdictions will help to expand and improve the mitigation capabilities of all. Close coordination will provide opportunities for evaluating potential funding opportunities to accomplish collaborative mitigation actions as well as specific mitigation actions outlined in the city's mitigation strategy. The county has the ability to support the small cities within the county to connect to funding sources and to implement mitigation work collaboratively. Additionally, the city has identified mitigations actions that will help to increase Lyons' overall mitigation capability.

Hazard Profile

The DOGAMI Multi-hazard Risk Assessment analyzed the exposure and potential losses from two earthquake scenarios, a 100-year flood scenario, exposure to landslide, channel migration, wildfire, and volcanic lahar, shown in the following tables. The methods used for this analysis are available in the report provided as Appendix E to this plan.

Table LY-1. City of Lyons Hazard Profile

| Community Overview | | | | | | | |
|---------------------------|--|---------------------------------|-----------------------------------|-------------------|----------------------------------|---------------------------|----------------|
| Community Name | | Population | Number of Buildings | | Critical Facilities ¹ | Total Building Value (\$) | |
| Lyons | | 1,203 | 1,074 | | 5 | 223,889,000 | |
| Hazus-MH Analysis Summary | | | | | | | |
| | | Potentially Displaced Residents | % Potentially Displaced Residents | Damaged Buildings | Damaged Critical Facilities | Loss Estimate (\$) | Loss Ratio |
| Hazard | Scenario | | | | | | |
| Flood ² | 1% Annual Chance | 11 | 0.9% | 6 | 0 | 70,000 | 0% |
| Earthquake | CSZ Mw-9.0 Deterministic | 23 | 1.9% | 126 | 1 | 12,905,823 | 5.8% |
| Earthquake | Turner and Mill Creek Fault Mw-6.6 Deterministic | 20 | 1.7% | 75 | 1 | 9,900,919 | 4.4% |
| Exposure Analysis Summary | | | | | | | |
| | | Potentially Displaced Residents | % Potentially Displaced Residents | Exposed Buildings | Exposed Critical Facilities | Building Value (\$) | Exposure Ratio |
| Hazard | Scenario | | | | | | |
| Landslide | High and Very High Susceptibility | 8 | 0.6% | 6 | 0 | 1,185,000 | 0.5% |
| Channel Migration | Channel Migration Zone | 22 | 4.7% | 22 | 0 | 8,509,000 | 3.8% |
| Wildfire | High and Moderate Risk | 188 | 16% | 194 | 0 | 31,971,000 | 14% |
| Volcanic Lahar | 1% Annual Chance | 0 | 0% | 0 | 0 | 0 | 0% |

¹Facilities with multiple buildings were consolidated into one building complex.

²No damage is estimated for exposed structures with "First floor height" above the level of flooding (base flood elevation).

Source: DOGAMI Multi-Hazard Risk Report, 2024

Table LY-2. City of Lyons Critical Facilities

| Critical Facilities by Community | Flood 1% Annual Chance | CSZ 9.0 Earthquake Moderate to Complete Damage | Turner and Mill Creek 6.6 Moderate to Complete Damage | Landslide High and Very High Susceptibility | Channel Migration Zone | Wildfire High or Moderate Risk | Volcanic Lahar - 1% Annual Chance |
|----------------------------------|------------------------|--|---|---|------------------------|--------------------------------|-----------------------------------|
| | Exposed | >50% Prob. | >50% Prob. | Exposed | Exposed | Exposed | Exposed |
| City of Lyons Shop | - | - | - | - | - | - | - |
| Lyons City Hall | - | - | - | - | - | - | - |
| Lyons RFD - Station 550 | - | - | - | - | - | - | - |
| Lyons-Mehama Water District Shop | - | - | - | - | - | - | - |
| Mari-Linn Elementary School | - | X | - | - | - | - | - |

Source: DOGAMI Multi-Hazard Risk Report, 2024

Hazard Analysis

The methodology for assessing risk was the same for all jurisdictions and a detailed description of the Hazard Analysis Methodology can be found in Volume I. A brief description is provided below. To complete the risk assessment, jurisdiction representatives first updated the description, type, location, and extent of each hazard. Next, they updated the Hazard Analysis Methodology based on each hazard's potential impact on the county as a whole. The results of that exercise are provided in Table LY-3, below.

In this analysis, severity ratings, and weight factors, are applied to the four categories of history, vulnerability, maximum threat (worst-case scenario), and probability as shown in the table below. See Volume I, Section 2, Risk Assessment for more information.

The methodology produces scores ranging from 24 (lowest possible) to 240 (highest possible). Vulnerability and probability are the two key components of the methodology. Vulnerability examines both typical and maximum credible events, and probability endeavors to reflect how physical changes in the Lyons and scientific research modify the historical record for each hazard. Vulnerability accounts for approximately 60% of the total score, and probability approximately 40%.

This method provides the jurisdictions with a sense of hazard priorities, or relative risk. It does not predict the occurrence of a particular hazard, but it does "quantify" the risk of one hazard compared with another. By doing this analysis, planning can first be focused where the risk is greatest.

The City of Lyons representatives refined the risk assessment with guidance from the DLCDC planner using the County's Hazard Analysis Methodology scores as a reference. Table LY-4, below, represents the variation in total risk to the natural hazards as experienced by City of Lyons representatives compared to the county level ranking completed by the Steering Committee.

Winter Storm, which was revised in 2024 to include Ice Storms, retains the top-ranking hazard for the county and the city. The January 2024 ice storm (DR-4768) had an impact on trees in Lyons and related tree maintenance and removal. Extreme Heat, Smoke/Poor Air Quality, both newly identified hazards in this update, and Windstorms rank most highly for the City of Lyons staff. The impact of windstorms on tree mortality was identified by City staff.

The City of Lyons ranks Wildfire risk higher than Earthquake, but lower than the risk of damage from Windstorms. The maximum threat to the City of Lyons from Wildfire caused the City representatives to rank it as a High level hazard, higher than it was ranked for the county as a whole. The frequency of Windstorms in Lyons is greater than experienced overall in the county. Drought has become a greater concern for the City of Lyons than it had been in the past. The county's ranking of Drought increased since the last NHMP risk assessment exercise was conducted in 2016.

The City does not consider Volcano or Dam Failure to be hazards that require mitigation action by the City and will not identify mitigation actions for those hazards.

Table LY-3. OEM Hazard Analysis Methodology County Level Risk Scores

| Linn County | | | | | | | | | | | | | |
|--|-------------------|----------------|----------|-----------------------|----------------|----------|-------------------------|----------------|----------|-----------------------|----------------|----------|----------------|
| 2024 Natural Hazard Vulnerability Assessment Rankings | | | | | | | | | | | | | |
| Based on the OEM-FEMA Hazard Analysis methodology combining factors of History, Probability, Vulnerability and Maximum Threat to help assess risk. | | | | | | | | | | | | | |
| HAZARD | HISTORY WF = 2 | | | PROBABILITY WF = 7 | | | VULNERABILITY WF = 5 | | | MAX THREAT WF = 10 | | | TOTAL SCORE |
| | weight | severity score | subtotal | weight | severity score | subtotal | weight | severity score | subtotal | weight | severity score | subtotal | |
| Winter Storm/Ice Storm | 2 x | 8.1 | 16.2 | 7 x | 9.0 | 63.0 | 5 x | 9.0 | 45.0 | 10 x | 7.7 | 77.0 | 201 |
| Extreme Heat | 2 x | 7.5 | 15.0 | 7 x | 8.4 | 58.8 | 5 x | 8.1 | 40.5 | 10 x | 7.3 | 73.0 | 187 |
| Smoke/Poor Air Quality | 2 x | 8.1 | 16.2 | 7 x | 8.4 | 58.8 | 5 x | 8.1 | 40.5 | 10 x | 6.8 | 68.0 | 184 |
| Flood | 2 x | 7.3 | 14.6 | 7 x | 8.1 | 56.7 | 5 x | 6.4 | 32.0 | 10 x | 6.8 | 68.0 | 171 |
| Drought | 2 x | 7.0 | 14.0 | 7 x | 7.5 | 52.5 | 5 x | 5.9 | 29.5 | 10 x | 7.3 | 73.0 | 169 |
| Earthquake (Cascadia) | 2 x | 2.0 | 4.0 | 7 x | 4.6 | 32.2 | 5 x | 7.7 | 38.5 | 10 x | 8.6 | 86.0 | 161 |
| Wildfire | 2 x | 7.5 | 15.0 | 7 x | 8.7 | 60.9 | 5 x | 6.4 | 32.0 | 10 x | 5.1 | 51.0 | 159 |
| Earthquake (Crustal) | 2 x | 4.3 | 8.6 | 7 x | 5.8 | 40.6 | 5 x | 7.7 | 38.5 | 10 x | 6.8 | 68.0 | 156 |
| Dam Failure | 2 x | 2.3 | 4.6 | 7 x | 2.6 | 18.2 | 5 x | 6.8 | 34.0 | 10 x | 7.7 | 77.0 | 134 |
| Windstorm/Tornado | 2 x | 4.9 | 9.8 | 7 x | 5.6 | 39.2 | 5 x | 5.1 | 25.5 | 10 x | 4.2 | 42.0 | 117 |
| Volcano | 2 x | 2.0 | 4.0 | 7 x | 2.0 | 14.0 | 5 x | 6.4 | 32.0 | 10 x | 5.9 | 59.0 | 109 |
| Landslide and Avalanche | 2 x | 4.8 | 9.6 | 7 x | 6.4 | 44.8 | 5 x | 3.8 | 19.0 | 10 x | 3.3 | 33.0 | 106 |

Completed by the Linn County NHMP update Steering Committee during 2024.

Completed by the Linn County NHMP update Steering Committee during 2024.

Table LY-4. Relative Risks of Natural Hazards in Lyons

| HAZARD | Total Score | |
|-------------------------|-------------|-------|
| | County | Lyons |
| Winter Storm/Ice Storm | 201.2 | same |
| Extreme Heat | 187.3 | same |
| Smoke/Poor Air Quality | 183.5 | same |
| Flood | 171.3 | same |
| Drought | 169.0 | same |
| Earthquake (Cascadia) | 160.7 | same |
| Wildfire | 158.9 | ↑ |
| Earthquake (Crustal) | 155.7 | same |
| Dam Failure | 133.8 | n/a |
| Windstorm/Tornado | 116.5 | ↑↑ |
| Volcano | 109.0 | n/a |
| Landslide and Avalanche | 106.4 | same |

Hazard Characteristics

Hazard History, Characteristics and Extent for Linn County apply also to Lyons. Volume I, Section 2, Risk Assessment, adequately describes the characteristics of natural hazards, as well as the location and extent of potential events. In addition to the City of Lyons Hazard Profile and Critical Facilities tables (LY-1 and LY-2) included above, this section identifies vulnerabilities specific to Lyons, recent localized hazard events and impacts, and illustrates the basis for the City's HVA scores.

Drought

Events: Portions of Linn County experienced Extreme Drought in 2018 and 2021-2023.

Vulnerability and Impacts: The City of Lyons is beginning to see the effects of drought through declines in tree health, sometimes resulting in death of the tree which then needs to be removed.

Earthquake

Events: None.

Vulnerability and Impacts: The Mari-Linn Elementary School, which serves students in grades K-8 and is part of the North Santiam School District, is vulnerable to a CSZ 9.0

Earthquake. A community lifeline high-occupancy building was also found to be vulnerable to a CSZ 9.0 earthquake.

Extreme Heat

Events: Excessive heat and high heat events in 2017, 2021, and 2022.

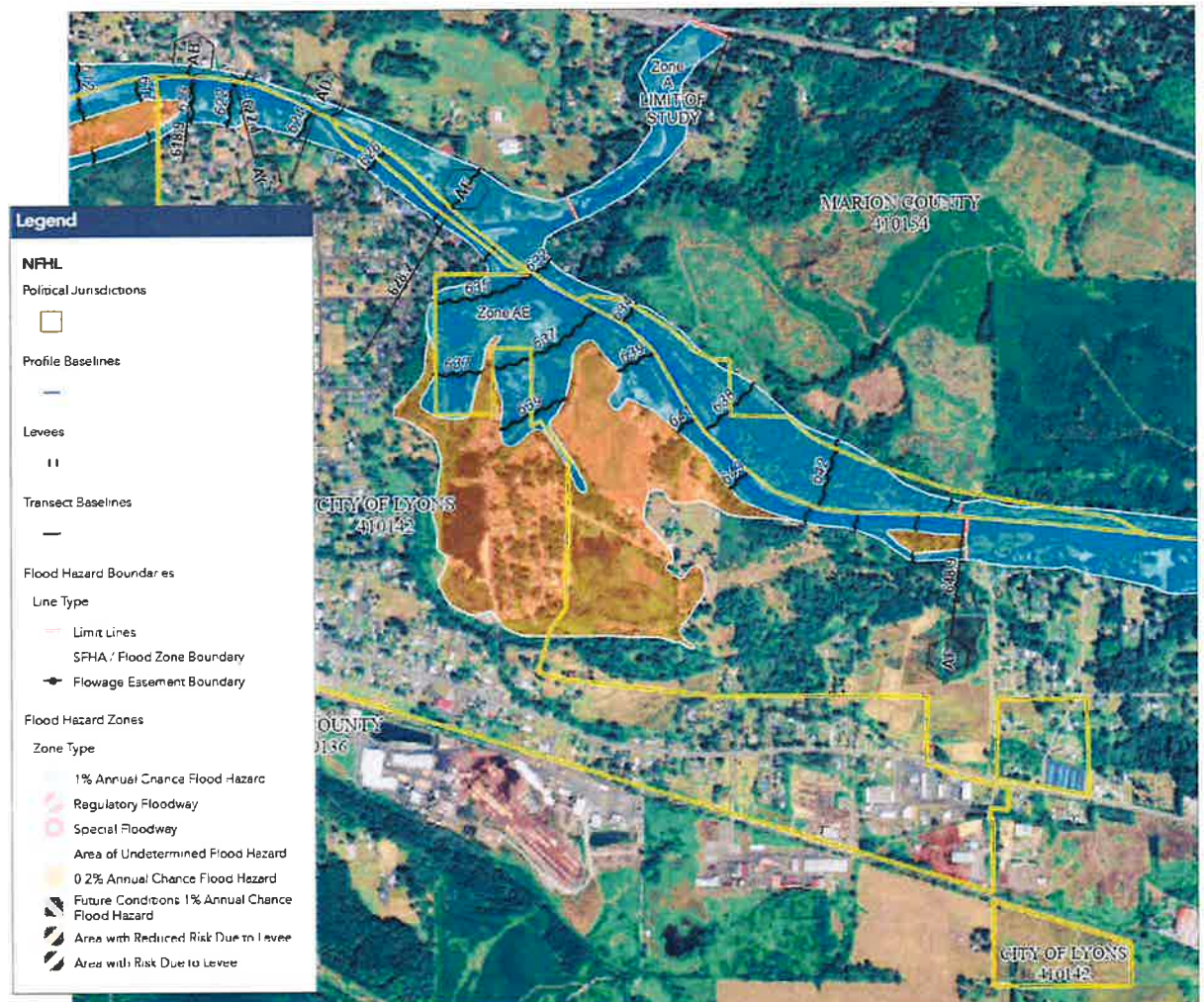
Vulnerability and Impacts: The City has not yet identified a building that could serve as a refuge for those who need a cool place to go during extreme heat events.

Flood

Events: None.

Vulnerability and Impacts: The North Santiam River is highly susceptible to stream channel migration. Structures near and within these floodplains, shown in the following figure, are at high risk from channel migration hazard.

Figure LY-2. Special Flood Hazard Area in Lyons



Source: [FEMA's National Flood Hazard Layer \(NFHL\) Viewer](#)

Landslide/Avalanche

Events: None

Vulnerability and Impacts: Areas along Highway 22 along the North Santiam River have a high level of exposure to landslide hazard. While Highway 22 is not in Lyons, it provides important transportation access.

Smoke/Poor Air Quality

Events: Annual field burning season periodically is exacerbated by wildfire smoke that enters the valley sometimes from outside the county.

Vulnerability and Impacts: The geography of the Santiam canyon causes air currents to funnel through the City of Lyons.

Volcano

Events: None

Vulnerability and Impacts: Lyons is one of the communities threatened by a volcanic lahar event, along with Gates and Mill City. However, no buildings were found by DOGAMI to be at risk.

Wildfire

Events: The catastrophic 2020 Lionshead/Beachie Creek wildfire burned to the northern bank of the North Santiam River and greatly impacted the north part of Linn County, including Lyons and the surrounding areas. In addition to the direct impacts from the fire, people were affected by evacuations, smoke, and road and area closures, impacting public health, recreation, and local economies.

Vulnerability and Impacts: Firefighting capacity was compromised due to electricity shutoff resulting in water pumps failing to resupply firefighting equipment. In addition, limited or undelivered notice of the evacuation order and lack of confidence that evacuation would leave property safe from vandalism and vigilante activities left residents of Lyons highly vulnerable to both the wildfire and to related risks. A community lifeline high-occupancy building was found to be vulnerable to Moderate and High wildfire risk per DOGAMI's analysis.

Winter Storm/Ice Storm

Events: Several winter storms affected the City of Lyons since 2017, in particular the ice that accompanied the December 22, 2022, winter storm. Several winter storms and notable ice storm in February 2021 (DR-4599) and January 2024 (DR-4768) affected the county.

Vulnerability and Impacts: The most common vulnerability to winter storms is the trees that can be impacted or brought down. This can result in downed power lines also.

Windstorm/Tornado

Events: Windstorm events in 2017, 2018, 2020, 2022, and in 2023. The September 7, 2020, event resulted in rapid growth of wildfires. The December 27, 2022, event resulted in peak gusts up to 60 mph in Lyons.

Vulnerability and Impacts: There are similar vulnerabilities to winter storms, downed trees and power lines.

Mitigation Strategy

During the 2023-2024 Linn County and Lyons update process, the DLCD planner and Lyons representatives assessed the mitigation strategy actions within the 2017 Lyons Addendum. Together they revised and updated that list of actions to reflect the revised risk assessment for Lyons.

Table LY-5. Completed Actions - Lyons

| Action Item | Hazard | Action Title | Coordinating Agencies | 2017 Timeline | 2024 Status | Notes |
|-------------|------------|---|--|---------------|-------------|---|
| Priority #7 | Earthquake | Complete inventory of critical facilities that are vulnerable to earthquake damage. | Planning, Public Works, Emergency Management | Short-Term | Complete | DOGAMI Multi-hazard Risk Assessment provides this inventory. Only one facility listed is vulnerable to damage from earthquake, the Mari-Linn Elementary School. |

Table LY-6. Actions Removed from the Lyons Addendum

| Action Item | Hazard | Action Title | Coordinating Agencies | 2017 Timeline | 2024 Status | Notes |
|-------------|--------------|---|--------------------------|---------------|-------------|--|
| Priority #8 | Flood | Complete an inventory of locations in city of Lyons subject to frequent storm water flooding outside of designated floodplains. | Public Works, Planning | Short-Term | Remove | There are no areas that flood which are not identified as FEMA floodplains. |
| Priority #4 | Multi-Hazard | Provide NHMP awareness training to City staff to incorporate Natural Hazard Mitigation. | Planning, Administration | Ongoing | Remove | This action is not useful to the city. Information about the EOP when it is updated would be more useful to city staff in the event of a natural hazard event. |

| Action Item | Hazard | Action Title | Coordinating Agencies | 2017 Timeline | 2024 Status | Notes |
|-------------|---|---|--|---------------|-------------|---|
| Pool #3 | Multi-Hazard | Provide NHMP awareness training to City staff to incorporate Natural Hazard Mitigation Planning aspects into their daily work. | Administration, Emergency Management, Fire, Police | Ongoing | Remove | Duplicate of Priority #4 action which was removed. |
| Pool #7 | Severe Weather (Winter Storm/Windstorm) | Develop and implement landscaping and tree standards to keep trees from threatening lives, property, and public infrastructure. | Planning, Public Works | Short-Term | Remove | There is little appetite for additional regulation and the resulting enforcement. |
| Pool #5 | Earthquake | Evaluate Lyons' water distribution system and seek funding alternatives to seismically retrofit where appropriate. | Planning, Public Works | Long-Term | Remove | Lyons does not operate a water system |
| Priority #5 | Drought | Provide information regarding droughts and other natural hazards on the City's website. Provide hard copies at Lyons City Hall. | Public Works, Administration, Planning | Ongoing | Remove | Combined with other public information actions. |
| Pool #4 | Drought | Identify incentive programs to install water efficient devices in existing and new city owned facilities. | Planning, Administration | Short-Term | Remove | Combined with other public information actions. |

Table LY-7. Ongoing Actions, Short-, and Long-Term Projects – Lyons

*Short term 1-3 years, Medium term 3-5 years, Long term > 5 years

| Hazard Action Item | Action Title | Coordinating Agencies | 2024 Timeline* | 2024 Status | Potential Funding Sources | Notes |
|--------------------|--|--|-----------------------|--|---------------------------|--|
| Multi-Hazard 1 | Continue public education efforts aimed at informing citizens of the natural hazards Lyons is vulnerable to and mitigation measures residents can take independently to protect new and existing property. | Planning, Fire, Police | Ongoing | Retain; revised to incorporate other similar actions | City General fund. | This action is similar to Priority #5 and Pool #4 from 2017. |
| | Specifically provide information about drought and water efficient devices to mitigate the impacts of drought | | | | | The city currently uses its website, an electronic reader board, bulletin boards and code enforcement interactions to inform residents about natural hazards. |
| Multi-Hazard 2 | Support the school district if they want to develop vulnerability assessments and mitigation projects to improve safety. | Planning, Fire, Police, School District | Ongoing | Retain, revised | City General fund. | |
| Multi-Hazard 3 | Provide information to residents about how to manage without power, utilities, or transportation during disaster event. | Emergency Management, Fire, Police, Planning | Ongoing | Retain; revised | City General fund. | The city works to communicate with residents, to promote readiness, and to build cooperative relationships with private businesses for assistance during disaster. |
| Multi-Hazard 4 | Create or update a Continuity of Operations Plan (COOP). | Planning, Emergency Management, Fire, Police | Short term; 1-3 years | Retain | City General fund. | The city staff is small; but should there be staff turnover, new staff should be informed of the COOP. |

| Hazard Action Item | Action Title | Coordinating Agencies | 2024 Timeline* | 2024 Status | Potential Funding Sources | Notes |
|--------------------|--|--|------------------------|-----------------|---------------------------|--|
| Multi-Hazard 5 | Update emergency operations plan. | Planning, Administration | Long term; >5 years | Retain | City General fund. | It is important to keep the EOP current, however capacity to update will need to be identified. |
| Earthquake 1 | Advocate that ODOT assess the seismic stability of the 5th Street Bridge. | Fire, Police, Emergency Management, Planning, ODOT | Ongoing | Retain; revised | City General fund. | 5th Street bridge is Potentially Vulnerable to damage from earthquake based on the ODOT 2023 Bridge Report. |
| Flood 1 | Ensure continued compliance in the National Flood Insurance Program (NFIP) through enforcement of the provisions of Flood Damage Prevention in the Lyons Municipal Code. | Planning, Public Works, Administration | Ongoing | Retain | City General fund. | Site grading permits required for earthwork in a natural hazard area (floodplain, landslide, slope over 15%); zoning and/or site engineering review for development activity in mapped natural features or hazards (e.g. wetlands, riparian areas, geo-hazard areas and floodplain). |
| Flood 2 | Encourage development of acquisition and management strategies to preserve open space for flood mitigation, fish habitat, and water quality in the floodplain and reduce risk to flood prone properties as well as preserve space for open space property. | Planning, Parks and Recreation | Ongoing | Retain | City General fund. | An area of apparently new construction is located in the 500-year Special Flood Hazard Area may be at risk of flooding in a rare event. The city staff noted concern with a small county bridge on 13th St that is the only way out of this neighborhood. |

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|--------------------|---|------------------------------------|---------------------|-----------------|--|--|
| Flood 3 | For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or storm water drainage ditches. | Public Works, Planning | Long term; >5 years | Retain | City Street fund, State and Federal grants, loans. | Storm water system upgrades will require significant support to city capacity to seek grants and then to manage them. |
| Wildfire 1 | Participate with the county to implement wildfire actions in the Linn County Community Wildfire Protection Plan as they relate to Lyons. | Fire, Police, Emergency Management | Ongoing | Retain, revised | City General fund. | CWPP Action 2.1 regarding providing information about fire-resistant materials specifically refers to Lyons among other small cities in the county: "2.1 Collaborate with developers/builders, fire protection agencies, and relevant County agencies to collect and distribute educational materials regarding fire-resistant construction materials and techniques, fire code standards for access, water supply, fuel breaks, defensible space, and fire-resistant vegetation and landscaping in the WUI." |

Plan Implementation and Maintenance

The City Council is responsible for adopting the Linn County MJ-NHMP including the City of Lyons addendum to the Linn County NHMP. The City Manager is the plan Convener and is responsible for coordinating implementation and maintenance of the Lyons Addendum to the Linn County MJ-NHMP and will participate in the Linn County NHMP implementation and maintenance meetings. The Lyons Convener will report on city specific activities as appropriate and will keep the City Council informed of the implementation and maintenance work conducted on the Linn County MJ-NHMP over the course of the plan's five-year life. See Volume I, Section 4 for additional information.

Keeping the public informed of Lyons's efforts to reduce the risk from future natural hazards events is important for successful plan implementation and maintenance. Lyons is committed to involving the public in the plan implementation and maintenance process. See Volume I, Section 4 for more information.

The Linn County Multi-Jurisdictional Natural Hazards Mitigation Plan and city addenda will be updated every five years in accordance with the update schedule outlined in the Disaster Mitigation Act of 2000. During the county plan update process, Lyons will also review and update its addendum. The Lyons Convener will be responsible for consulting elected officials and the public to address the questions outlined below.

- Are there new partners that should be brought to the table?
- Are there new local, regional, state, or federal policies influencing natural hazards that should be addressed?
- Has the community successfully implemented any mitigation activities since the plan was last updated?
- Have new issues or problems related to hazards been identified in the community?
- Are the actions still appropriate given current resources?
- Have there been any changes in development patterns that could influence the effects of hazards?
- Have there been any significant changes in the community's demographics that could influence the effects of hazards?
- Are there new studies or data available that would enhance the risk assessment?
- Has the community been affected by any disasters? Did the plan accurately address the impacts of this event?

These questions will help Lyons's Convener determine what components of the mitigation plan need updating.