

# Tualatin Climate Action Plan: Adaptation Actions

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November 13, 2023



# Overview

- Consultant introduction
- Climate change in Tualatin
- Community concerns
- Focus areas, strategies, and actions
- Q&A

# Our consultants

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**Joshua Proudfoot**  
Director, Climate and ESG  
Good Company, a division of Parametrix

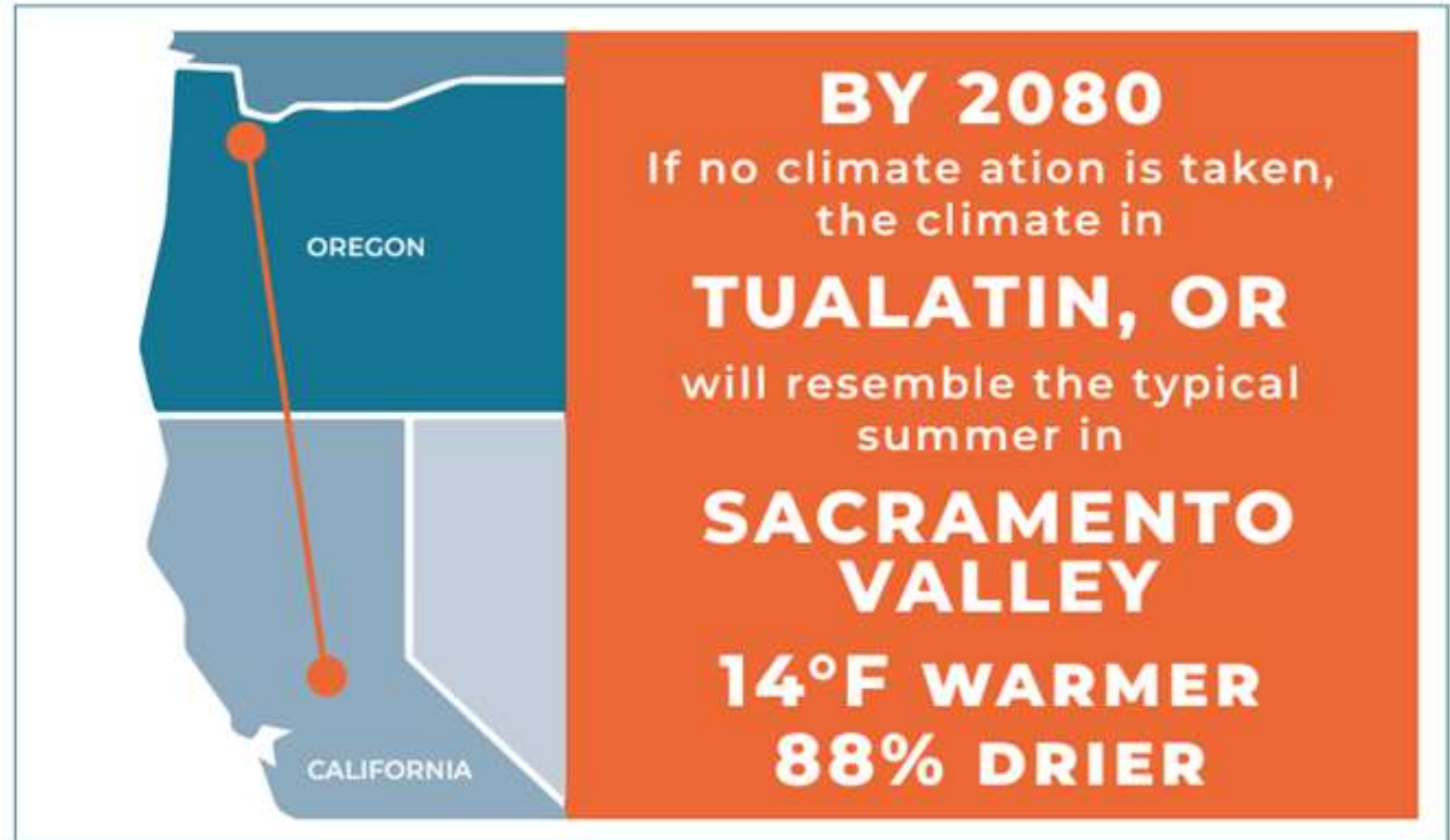


**Jessica Pickul**  
Executive Officer + Senior Program Manager  
JLA Public Involvement

# Climate change in Tualatin

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Extreme heat



# Climate change in Tualatin

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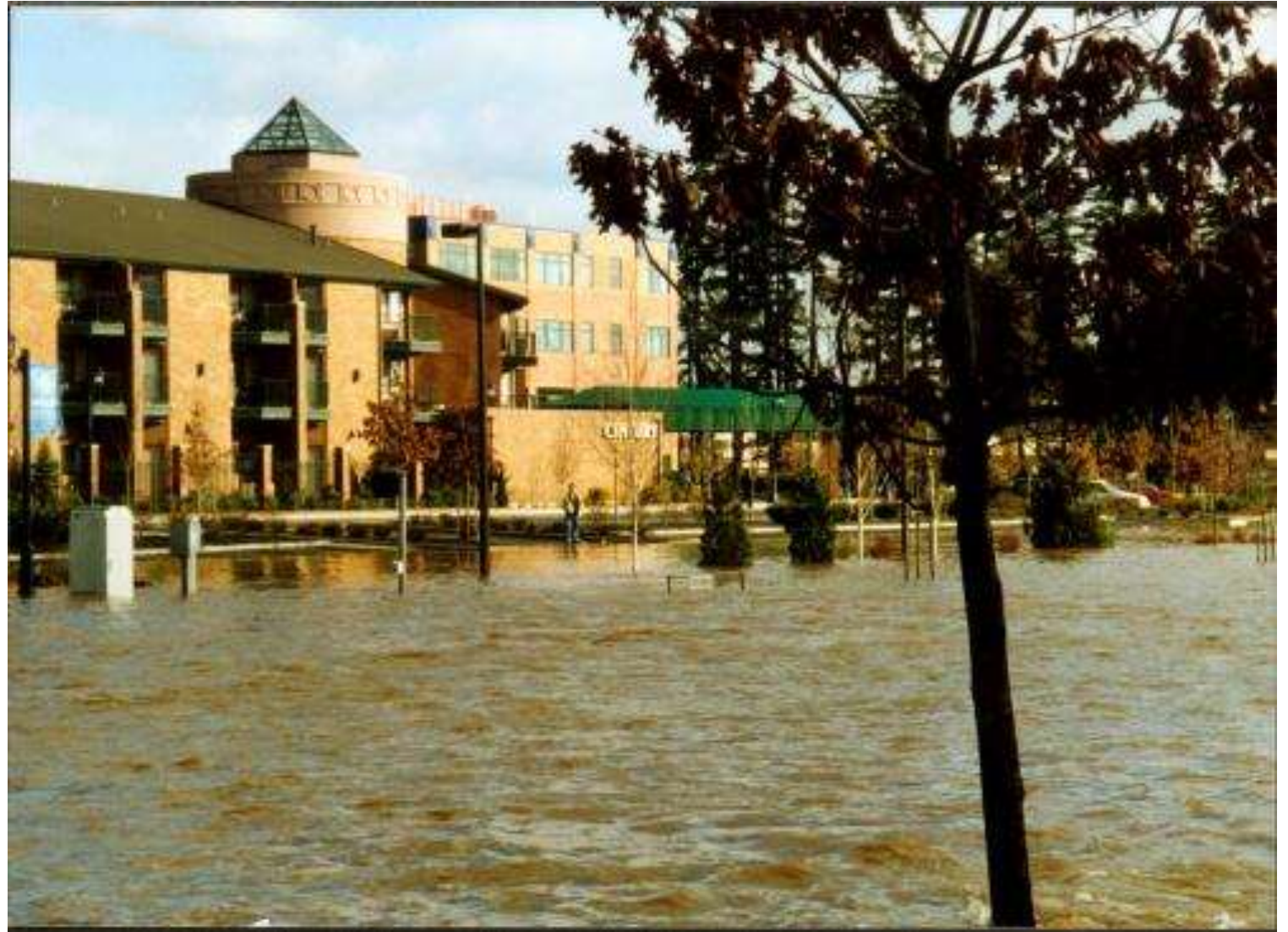
Wildfire & smoke



# Climate change in Tualatin

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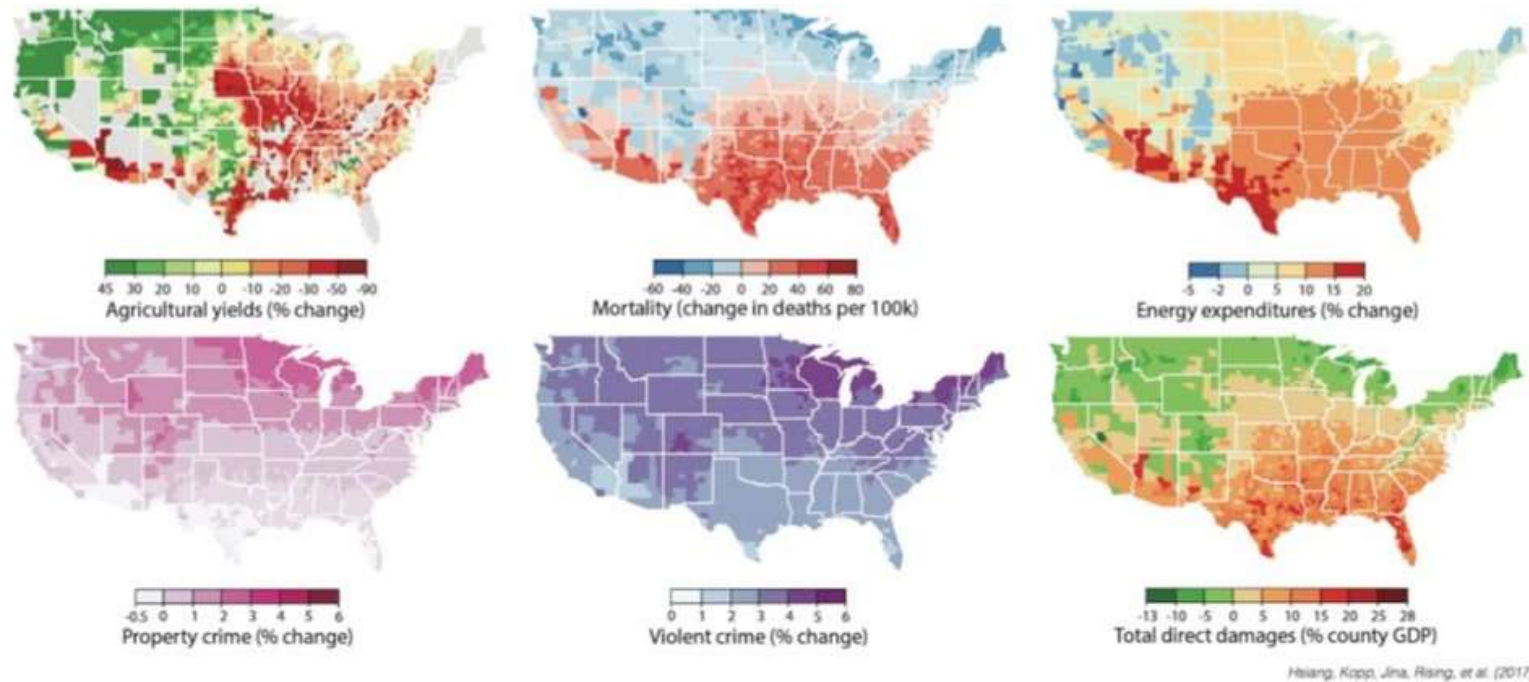
Increased flooding



# Climate change in Tualatin

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Quality of life changes



# Climate change in Tualatin

## Health effects

Climate-related drivers of health: environmental hazards	Stress factors: inequities in social, physical environment, cultural, and economic supports
Heat	Systemic inequities in policies
Infectious disease vectors	
Wildfire	Inequities and unequal investment in social determinants of health (e.g., housing, education, income, wealth, transportation access, food security, income security, access to health care)
Air quality (e.g., pollen, wildfire smoke, smog, ozone)	
Storms, floods, landslides	
Sea level rise	Capacity and adaptive capacity of infrastructure, institutions, and systems to support human health (e.g., culturally specific services, surge capacity of hospitals)
Drought, water insecurity	
Effects on human health	
Hazard-related acute conditions (e.g., heat stroke, asthma attack)	
Hazard-related chronic conditions (e.g., heart disease, diabetes, respiratory illness)	
Infectious diseases (e.g., Lyme disease)	
Mental health conditions	
Adverse pregnancy outcomes	



# Community concerns

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- **Exposure to climate hazards**, particularly for the most vulnerable, such as extreme heat and poor air quality due to wildfire smoke.
- **Loss of work and income** when conditions make it unsafe to get to work or to stay at work.
- **Costs to repair damage** caused by flooding or storms.
- **Transportation** to school was a key issue at the Youth workshop.
- **Inequitable financial and safety impacts** on the most vulnerable to extreme weather.
- **Increased cost of electricity** during peak times during the day.
- **Power outages** due to extreme weather events.

Actions informed by what we heard from the community are shown in **blue text**.

# Focus area 1: Natural systems, resources & infrastructure

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# Strategy 1.1: Improve the resilience of Tualatin's natural systems, resources, and infrastructure to extreme heat.

Tree health & canopy cover



Park design standards



River health & access



Sheltered transit stops





## **Strategy 1.1:** Improve the resilience of Tualatin's natural systems, resources, and infrastructure to extreme heat.

**1.1.3 - Conduct a canopy cover study in Tualatin** to better understand gaps in canopy cover and identify opportunities to equitably increase shade in Tualatin. The study should include the entire geographical area of Tualatin, including publicly and privately owned properties.



**1.1.7 - Advocate for Clean Water Services to update its stormwater treatment facility species list with species that are able to withstand increased temperatures, drought, occasional snow and ice storms, and fire.** The City of Tualatin currently follows the Clean Water Services Low Impact Development Approach (LIDA) Handbook, specifically the Public-Private Plant List for determining which plant species to select and plant in water quality facilities. Some native plant species are under significant threat of extinction (e.g. the Oregon Ash). Discretion should be used when selecting species to plant in water quality facilities to ensure that plants and trees are likely to survive and thrive in changing climate conditions.



**1.1.9 - Create park design standards to increase shade cover, shelter, increase the availability of drinking water fountains and water features in City parks.**





## Strategy 1.2: Improve the resilience of Tualatin's natural systems, resources, and infrastructure to handle an increase in fire risk and smoke events.

Home - Fire & Life Safety - Community Risk Reduction - Wildfire - Ready Set Go!

### WILDFIRE — READY, SET, GO!



We know wildfires can happen here. Using these three simple steps: **READY, SET, GO!**, you will find practical steps to create a safety buffer around your home and property, make a plan, and be prepared to leave should you receive word to evacuate.

### READY

Learn steps to harden your home and create a defensible space. Taking [these actions](#) can help you prepare and protect your home and property from wildfire.

### SET

Create your plan! Take [these actions](#) to develop your family's communication plan, evacuation plan and assemble an emergency kit.

### GO!

**READY, SET, GO!**  
**Webinar:**  
In case you missed our May 15, 2023 webinar, you can watch the recorded version [here!](#)

**2022 Webinar Recordings:**

[March 29: READY, Set, Go!](#)  
[May 12: Ready, SET, Go!](#)  
[June 9: Ready, Set, GO!](#)

To request a speaker for your community (in-person or virtual) contact us at: 503-259-1502 [education@tvfr.com](mailto:education@tvfr.com)

Due to an influx in requests, please give us 3-5 business days to get back to you.

**Public Alerts Sign-Up:**

[CLICK HERE](#) if you are a resident of Washington, Clackamas, or Multnomah counties.

[CLICK HERE](#) if you are a resident of Yamhill County.

**Evacuation Zones**





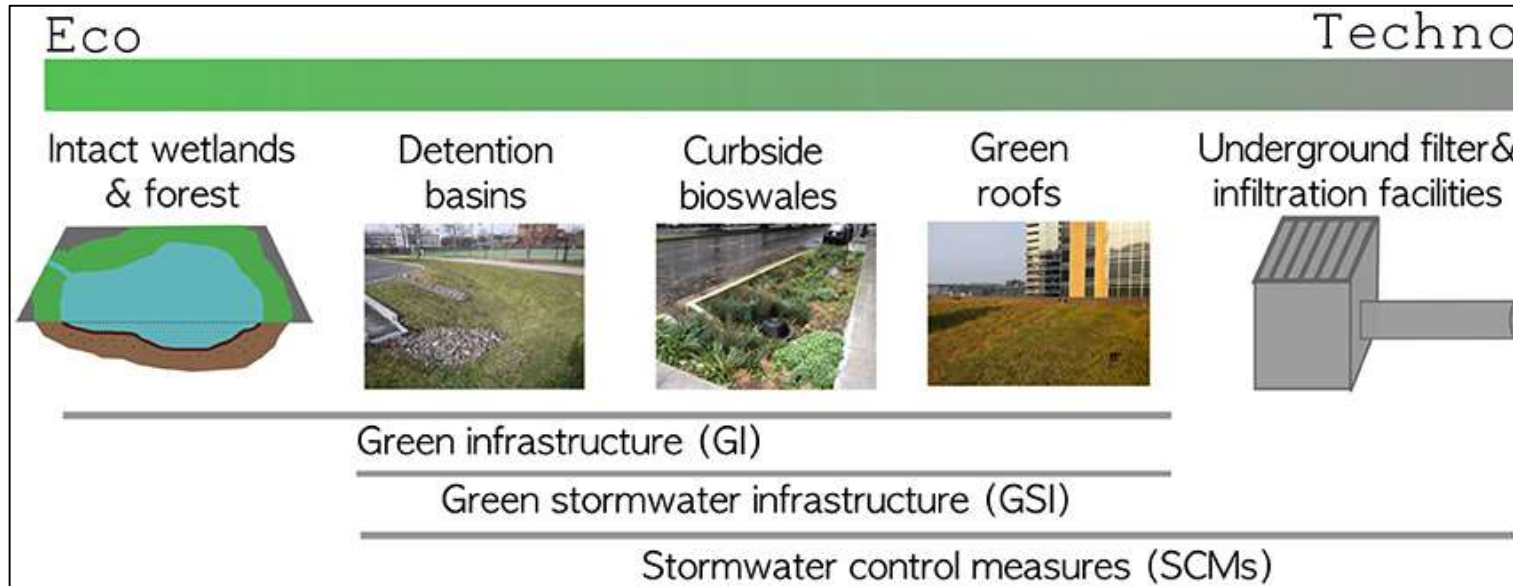
**Strategy 1.2:** Improve the resilience of Tualatin's natural systems, resources, and infrastructure to handle an increase in fire risk and smoke events.

**1.2.1 - Share resources from Firewise USA via Tualatin Valley Fire & Rescue to increase community access to wildfire preparedness resources.** The Firewise USA program is a global nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical, and related hazards. Oregon's Department of Forestry (ODF) manages the program at the state level, and ODF district offices and fire departments manage the program at the local level.





**Strategy 1.3:** Improve the resilience of Tualatin's natural systems, resources, and infrastructure to handle an increase in heavy precipitation events, flooding, and winter storms.



Evaluate, incentivize, and implement stormwater management strategies



Improve education & communications about flooding impacts



**Strategy 1.3:** Improve the resilience of Tualatin's natural systems, resources, and infrastructure to handle an increase in heavy precipitation events, flooding, and winter storms.

**1.3.2 - Encourage property owners to increase drainage, storage, and/or permeability on private properties.** One example could be lowering stormwater rates for property owners that certify that they've increased drainage, storage, and/or permeability on their properties.



**1.3.5 - Increase sustainability of outdoor spaces.** Tools could include rain gardens, backyard habitat certification, pollinator pockets, SITES certification, etc. *This action also supports Strategies 1.1 and 1.2.*



**1.3.11 - Change City code to enhance flood resilient development in flood-prone areas.** Flood resilient development refers to designing and constructing buildings, infrastructure, and communities in a way that minimizes the risk and impact of flooding. It involves implementing measures that enhance the ability of built environments to withstand and recover from flood events, thereby reducing potential damage and disruption. Examples of strategies related to flood resilient development include requiring elevated foundations, conducting floodplain mapping to identify high-risk areas, and investing in green infrastructure and natural flood management practices. *This action supports Strategies 2.3 and 3.3.*





# Focus area 2: Health & safety

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## Strategy 2.1: Increase preparedness and provide resources to help people who live, work, play, and learn in Tualatin better handle extreme heat events.



Update & actively enforce tree code



Promote assistance programs



Provide & promote public shelters (cooling, warming, and clean air)



Update standards & codes



**Strategy 2.1:** Increase preparedness and provide resources to help people who live, work, play, and learn in Tualatin better handle extreme heat events.

**2.1.1 - Update Rental Housing Maintenance Standards (TMC 6-13-040) to include standards for adequate cooling.** As of June 2023, TMC 6-13-040 states that, "There shall be a permanently installed heat source with the ability to provide a room temperature of 68 degrees Fahrenheit three feet above the floor, measured in the approximate center of the room, in all habitable rooms." For example, City of Tempe, AZ's code (Section 21-34) states that, "Every rental housing unit shall have cooling, under the tenant's control, capable of safely cooling all habitable rooms, bathrooms and flush toilet rooms located therein to a temperature no greater than 88 degrees, if cooled by evaporative cooling, or 82 degrees, if cooled by air conditioning."



IMPLEMENT



YES, POLICY  
DECISION

**2.1.4 - Share information about available shelters in anticipation of and during extreme weather events, including extreme heat, freezing temperatures, and hazardous air quality due to wildfire smoke.** Information should be shared through a variety of communications methods (e.g. social media, website, physical flyers, etc.) and should be available in both English and Spanish. *This action supports Strategies 2.2 and 2.3.*



SUPPORT/ADVOCATE



**Strategy 2.2:** Increase preparedness and provide resources to help people who live, work, play, and learn in Tualatin better handle more frequent wildfire and smoke events.



Promote higher air filtration standards in buildings



Amplify existing educational resources



Promote programs providing free/low-cost masks or air filters



**Strategy 2.2:** Increase preparedness and provide resources to help people who live, work, play, and learn in Tualatin better handle more frequent wildfire and smoke events.

**2.2.1 - Promote programs that provide low or no-cost masks and HVAC filters and/or air filtration systems to residents in need.** Target outreach towards low-income residents, people with disabilities, elderly people, and other vulnerable populations.



**2.2.2 - Promote higher standards of air filtration in new builds and renovations to filter out hazardous particles during poor air quality events.** Advocate at the state level and consider regulating this through the municipal code.



**2.2.4 - Amplify existing educational materials from IQAir and the Oregon Health Authority about which building air filters, face masks, and/or respirators are the most effective in filtering out harmful chemicals in wildfire smoke.** Share educational materials through standard City Communications channels, and explore other options to get this information to the business community (e.g. include in a Chamber of Commerce newsletter or ask the Business CIO to share it with their members). *This action supports Strategy 3.2.*





**Strategy 2.3:** Increase preparedness and provide resources to help people who live, work, play, and learn in Tualatin better handle the impacts of heavy precipitation events and winter storms.



Clothing drive to support community members



Support utilities to quickly restore power after an outage

**SOCIAL MEDIA POSTS**



Communicate in advance of and during events



Communicate about & improve access to the City's sandbag program



**Strategy 2.3:** Increase preparedness and provide resources to help people who live, work, play, and learn in Tualatin better handle the impacts of heavy precipitation events and winter storms.

**2.3.1 - Improve Tualatin's river level monitoring capabilities.** Currently, Public Works staff monitor river levels using data from the Farmington gauge (FRM03), located upstream, and forecast anticipated river levels. The addition of river level forecasting for the river gauge at Community Park would allow for more accurate predictions and a timelier response.



**2.3.8 - Improve access to the sandbag program** by delivering bags to high equity needs areas, setting up multiple fill stations, and/or communicating about the program in multiple languages. Consider partnering with CERT to deliver sandbags.



**2.3.9 - Host a clothing drive** to provide blankets and warm winter coats to community members in need during the winter months.



# Focus area 3: Economic shifts

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## Strategy 3.1: Improve the resilience of Tualatin's businesses and workers to extreme heat.

### Heat Illness Prevention Standard

This standard applies whenever an employee is required to perform work activities and the heat index equals or exceeds 80 degrees Fahrenheit. It does not apply to incidental exposure that exists when an employee is not required to work for more than 15 minutes in an hour, nor does it apply to the transportation of employees inside vehicles when they are not otherwise working.

Note: Oregon OSHA has determined that a workplace hazard exists whenever the heat index reaches 80 degrees (caution level) and that a more serious hazard exists whenever the heat index exceeds 90 degrees (extreme caution level).

Note: Employees are protected from discrimination or retaliation under ORS 6564.062(5) including the Oregon safe Employment Act and related statutes and rules.

#### Caution Level

- Employers must provide shaded areas for breaks and lunch periods when temperatures reach 80 degrees or higher.
- A minimum volume of 32 ounces of adequate drinking water per employee per hour must be available and readily accessible to each employee.
- The City will ensure the availability of drinking water.
- Each employee is responsible for bringing water with them to the job site.

#### Extreme Caution Level

- When the heat index exceeds 90 degrees, employers must ensure that effective communication is maintained so employees can contact a supervisor when necessary.
- Employers must ensure that employees are monitored for alertness and signs of heat illness.
- Employees must be able to call for emergency medical care if needed.
- Employers must ensure that each employee takes a 10 minute cool down break every two hours of continuous working activities. An air conditioned vehicle may be acceptable for this purpose.

#### Emergency Medical Plan

- The City will respond to signs and symptoms of possible heat illness, including but not limited to first aid measures.
- If symptoms of severe heat illness are visible (for example, decreased level of consciousness, staggering, vomiting, disorientation, or irrational behavior) immediate supervisors or fellow employees shall implement Emergency Response by calling 911.



More stringent cooling requirements in commercial and industrial buildings

Easy-to-understand OSHA toolkits for employers and workers

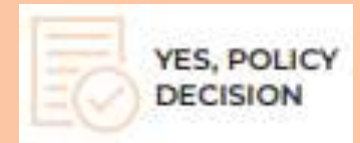


## **Strategy 3.1:** Improve the resilience of Tualatin's businesses and workers to extreme heat.

**3.1.1 - Advocate for OSHA to create educational toolkits that employers can use to understand and communicate about new OSHA rules related to safely working in extreme heat, poor air quality, and other hazardous climate-related conditions.** The toolkit should be available in both digital and print formats to improve access. *This action also supports strategy 3.2.*



**3.1.2 - Update municipal code to require more stringent cooling requirements in commercial and industrial buildings that create a lot of heat,** such as food processing, cooking, brewing, drying and curing. To incentivize these changes, the City could consider providing grants (like storefront matching grants) or incentives to encourage retail to have permanent cooling.





**Strategy 3.2:** Improve the resilience of Tualatin's businesses and workers to handle an increase in fire risk and smoke events.

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Financial assistance for businesses

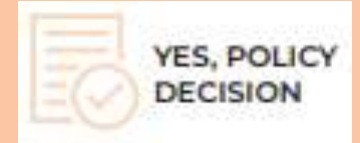


Prepare for supply chain disruptions



## **Strategy 3.2:** Improve the resilience of Tualatin's businesses and workers to handle an increase in fire risk and smoke events.

**3.2.1 - Develop a financial assistance program to help businesses who are forced to reduce operating hours or close due to wildfire or smoke events.**

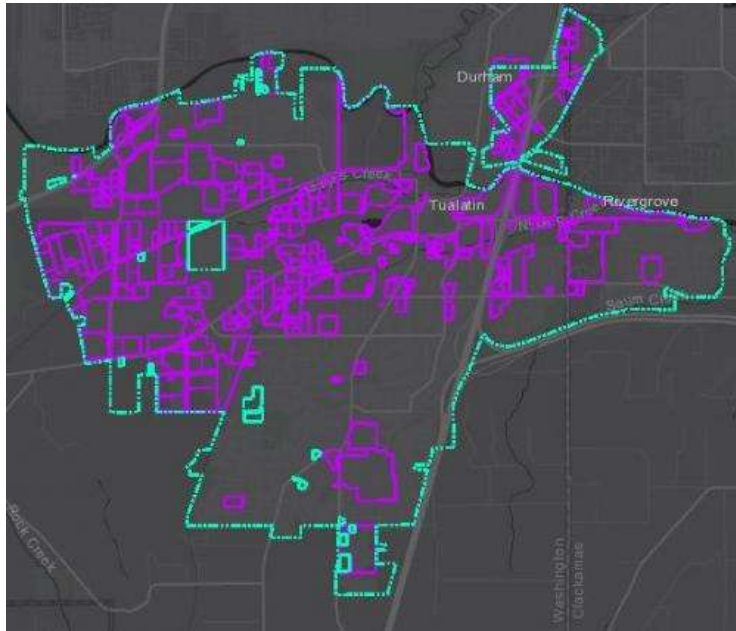


**3.2.2 - Work with the business community to better prepare for supply chain disruptions due to fire and smoke events.** The business community continues to feel the impacts from the COVID-19 pandemic, labor shortages, and supply chain disruptions. Some members of the business community expressed that they were unprepared to deal with the impacts of supply chain disruptions due to wildfire and smoke events. Building awareness that these events are likely to become more frequent may help the business community to better prepare for future events.





**Strategy 3.3:** Improve the resilience of Tualatin's businesses and workers to handle an increase in heavy precipitation events, flooding, and winter storms.



Enhance outreach and education for private water quality facilities



Coordinate flood response with downtown businesses



**Strategy 3.3:** Improve the resilience of Tualatin's businesses and workers to handle an increase in heavy precipitation events, flooding, and winter storms.

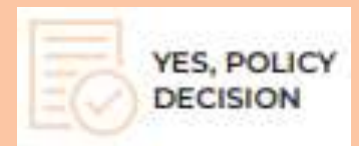
**3.3.2 - Coordinate flood response and preparedness workshops with businesses in downtown area.**



**3.3.3 - Improve businesses' access to the sandbag program** by delivering bags to flood prone areas, setting up multiple fill stations, and/or communicating about the program in multiple languages.



**3.3.4 - Provide Minority/Women Business Enterprise (MBE/WBE) businesses and small businesses access to alternative power sources, like generators, during power outages.** Members of the business community expressed how detrimental power outages can be to their livelihoods and the success of their small businesses. The City could consider purchasing additional generators to have on hand for minority owned and small businesses to 'check out' in the event of a power outage.



# Next steps

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- Review *mitigation (emissions reduction)* actions with Council at the 11/27 meeting
- Finalize plan based on feedback
- Council adoption of final plan
- Implementation begins

Questions?

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