Multnomah
County
Health Department

Climate and Health Resilience Plan 2025

Executive Summary

The 2025 Climate and Health Resilience Plan is an update to the Public Health Division's 2013 Climate and Health Preparation Plan. It fulfills an Oregon Health Authority requirement to develop a climate adaptation plan. The purpose of this plan is to guide the work of the Public Health Division and Health Department towards a just, resilient, and healthy future for Multnomah County.

Public Health has a unique role in protecting population health from climate impacts by taking action in partnership with the community. In responding to climate change, our focus is on the groups most impacted by climate hazards like heat and wildfire smoke, and those with the fewest resources to adapt. We use local data and science, and we work closely with community partners and subject matter experts to plan and develop local policies to prevent climate-related illness and death.

This plan outlines **three action areas** to guide climate and health work: building frontline neighborhood **heat resilience**; making our **housing** more resilient; and promoting **mental wellness**.

Action 1:
Frontline Neighborhood Heat Resilience
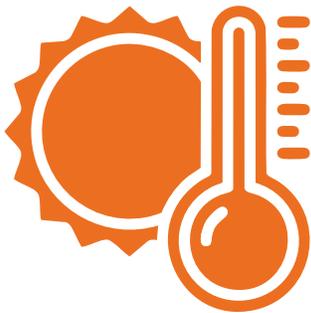
Action 2:
Housing Resilience

Action 3:
Mental Wellness Resilience

The plan includes:

- Implementation steps for each action
- Examples of how the Public Health Division is already responding to climate hazards
- Details on how community engaged in this planning process
- Links to state accountability metrics

Division staff will focus on implementing this plan during the next two years and will revise the plan within five years.

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Land Acknowledgment and Actions

Multnomah Clackamas and Washington county exist on the stolen homelands of the Multnomah, Kathlamet, Clackamas, bands of Chinook, Tualatin, Kalapuya, Wasco Tumwater and Molalla peoples. Signers of the Willamette Valley Treaty of 1855 were removed from their homelands to the Grand Ronde Indian Reservation. Today their descendants are tribal members of Grand Ronde and Siletz tribes, carrying on the traditions and cultures of their ancestors.

We acknowledge and express gratitude for the ancestors of this place and recognize that we are here because of the atrocities endured by Indigenous communities. In remembering these communities, we honor their legacy, their lives, and their continuation in our community. Please reflect on the role the government has played in the painful colonial history and reflect as well on the resilience and healing of the Indigenous land and communities. We would like to invite everyone to collaborate and work together with the tribes to take care of the land and water and the people who inhabit these spaces

While land acknowledgements are intended to be respectful, they can oversimplify complex tribal histories and can fail to recognize the ongoing impacts of colonization that tribal communities continue to live with to this day.

Land Acknowledgment and Actions (continued)

In addition to a land acknowledgement, we request that you join us in the following actions to support Indigenous communities.

1. Give land back to Indigenous communities.

2. Protect the environment.

3. Insist the United States respect tribal sovereignty and uphold its responsibility to tribes which includes appropriate levels of government funding to support tribal needs.

4. Elect officials and judges that understand tribal governments, relationships and law.

5. Invest in tribal economies.

6. Challenge and reject all stereotypes about Indigenous people.

7. Insist that children are taught accurate information about histories, cultures, and contemporary lives of Indigenous peoples in your school system.

8. Inform yourself about issues impacting Indigenous communities and speak up.

Acknowledgements

Introduction

In this update to the Public Health Division's 2013 Climate and Health Preparation Plan, we face a similar future, but with better information. Climate change is still a threat to the health and survival of communities in Multnomah County. Our choices about how to respond to climate threats still hold the potential to transform our community into a more just and resilient one, where all people can flourish in long-term well-being.

The purpose of this plan is to guide the work of the Public Health Division towards a just and resilient future. This is a future where all community members are protected against climate hazards and can thrive as we adapt to our changing climate. It is an opportunity to apply what we have learned to emerging climate hazards. Our approach is rooted in public health foundational capabilities, which shape and strengthen every part of our work:

- Applying assessments to identify vulnerable neighborhoods
- Tracking heat resilience over time
- Working to understand the mental health impacts of climate change.

We rely on leadership, cultural responsiveness, and strong community partnership development to build trusted relationships, align with emergency preparedness systems, and support long-term trauma recovery. We draw on strategic policy and planning, clear communication, and cross-sector collaboration to co-create practical, equitable responses that protect health and promote resilience—especially for communities most at risk.

In addition to evolving climate science, what we have learned about climate change has been profoundly shaped by experiences in our communities. Compared to 2013, we now know more about who is being affected and how. These realities form our starting point, the foundation for this plan:

- Climate change is especially impacting frontline communities who are being affected first and worst (United Frontline Table, 2020).
- Climate change has already brought devastation to our communities through events like the 2020 wildfire events and the 2021 Heat Dome (Oregon Health Authority, 2024).
- Climate change will continue to bring hotter, drier summers, warmer, wetter winters and more extreme weather (Fleischman, 2025).
- Climate hazards like heat, smoke, drought, wildfire, and ecological changes can cause health impacts. These include heat illness, respiratory illness, vector-borne diseases, and mental health problems (Oregon Health Authority, 2024).

Multnomah County, including the Public Health Division, has risen to the challenge of responding to climate hazards as they emerge. We have institutionalized response efforts to extreme heat, air pollution and severe weather. This has been achieved by embracing adaptive management in planning, emergency response and related interventions. We expect to maintain and improve our responses through continued adaptive management (Hess, McDowell and Luber 2012).

Introduction (continued)

Public Health & Climate Change Adaptation
Public Health Services

Monitor climate-related health threats **1**

2 Diagnose and investigate climate-related health threats

Inform, educate & empower regarding climate related health outcomes **3**

4 Mobilize community partnerships regarding the response to extreme weather and climate events

Develop policies on weather and climate preparedness and climate change **5**

6 Enforce laws relevant to climate change response efforts

Link to/provide health care for climate-related health outcomes **7**

8 Ensure competent workforce

Evaluate climate change preparedness and response efforts **9**

10 Research

This diagram helps explain the direction and work the Climate and Health workgroup strives to perform in Multnomah County. This includes everything from research and monitoring climate related health threats, to informing, educating and empowering communities regarding climate related health threats/outcomes and providing evidence based policy recommendations on climate and health equity to leadership. These are indicators that can aid other LPHAs in tracking adaptation efforts and are based on research conducted by Annie Doubleday et al. *(Doubleday A, Errett NA, Ebi KL, Hess JJ. Indicators to Guide and Monitor Climate Change Adaptation in the US Pacific Northwest. Am J Public Health. 2020;110(2):180-188. doi:10.2105/AJPH.2019.305403)*

Introduction (continued)

The Public Health Division has:

- Gathered data on urban heat, collaborated with community organizations to understand impacts, developed standard operating protocols for climate hazards, and evaluated effectiveness of interventions.

- Built partnerships with governmental agencies and community organizations to successfully secure resources in furtherance of this work.

- Established cross-agency coordination in hazard planning in collaboration with neighboring health departments.

As a result of these efforts, more households have access to cooling and air filtration, more trees have been planted, community health workers have been trained, and we have quality data to inform decision making.

Looking to the future, we identified actions that build upon our past efforts and position the Public Health Division to address emerging climate and health issues. This plan proposes three climate and health resilience actions that represent the next phase of development for our climate and health work:

- Action 1: Frontline Neighborhood Heat Resilience
- Action 2. Housing Resilience
- Action 3. Mental Wellness Resilience

The remainder of this document provides background and detail on these three action areas that will guide our work in the coming years.

Report Context

This Climate and Health Resilience Plan is an update to the Multnomah County Health Department (MCHD) 2013 Climate Change and Public Health Preparedness Plan. It addresses our Public Health Modernization Goal to "protect communities from environmental health threats from climate change through public health interventions that support equitable climate adaptation." This document fulfills an Oregon Health Authority requirement to create a climate adaptation plan.

This plan is also one component of MCHD's integrated suite of planning tools that address OHA's rubric for a climate action plan. This rubric identifies four core criteria for climate change adaptation planning:

- "Listen and Assess"
- "Partner"
- "Identify Actions, Strategies"
- "Keep Plan Alive".

Regional Climate and Health Data Story - "Listen and Assess"

The Regional Climate and Health Data Story provides data on 14 health conditions. Indicators focus on health outcomes (mortality and morbidity) associated with climate hazards. These hazards include heat, extreme weather, mosquitoes and ticks, communicable disease, air pollution, allergy, and mental health. Each indicator is accompanied by a narrative that explains how it connects to climate change and a discussion on potentially impacted populations. This data helps guide current mitigation efforts and provide a benchmark for future measurement.

Climate Justice Plan - "Partner"

The Multnomah County Climate Justice Plan concluded a planning process that built on years of community-centered engagement. Local organizations that focus on climate, environmental justice, and social justice co-led Plan development. There have been several iterations of community engaged processes in the development of the Climate Justice Plan. This started with the formation of a "third space" between community-based organizations, frontline community members, local government, and philanthropy, known as Climate Justice by Design. The process development, trust building, and engagement work led to the development of a Climate Justice Framework. The Framework laid the foundation for the Climate Justice Plan. A Steering Committee composed of 13 community leaders representing 12 different frontline serving organizations in Multnomah County led The Climate Justice Plan. The goals and strategies from the Climate Justice Plan are unique in comparison to the other suite of climate plans Multnomah County has developed. Community input and engagement drove all of the Climate Justice Plan strategies.

Report Context (continued)

Climate and Health Resilience Plan - "Identify Actions, Strategies"

This Climate and Health Resilience Plan builds on the insights and strategies uncovered in our other two planning tools; the Climate Justice Plan and the Regional Climate and Health Data Story. It is designed to be a living document. We will periodically update this Plan to reflect emerging climate threats, shifting community needs, and evolving policy landscapes.

Establish a Structured Timeline for Review and Reporting - "Keep Plan Alive"

The following steps provide guidance to staff on stewarding the plan into the future:

Short Term Review

- Create and establish public accountability structures
- Designate internal and external partner roles for ongoing oversight

Mid-Cycle Review

- Assess progress on resilience actions
- Evaluate equity impacts, ensuring that frontline communities receive targeted benefits
    - » Hold listening sessions to ensure strategies remain relevant and effective
    - » Convene periodic climate resilience meetings to assess implementation
    - » Incorporate community feedback to refine implementation approaches

Full Plan Reassessment and Update

- Five year cycle for plan update with assessment of actions

Analytical Frameworks

Throughout this plan we employ two key frameworks to analyze each of the three Climate and Health Resilience Actions.

Building Resilience and Climate Equity (BRACE)

The BRACE framework was designed by the United States Center for Disease Control's Climate and Health Program to support public health action that protects and promotes human health in the context of climate change. BRACE helps health departments at all jurisdictional levels collaborate with communities to assess climate and health threats, develop effective strategies, and act to promote climate and health resilience. (CDC BRACE 2025).
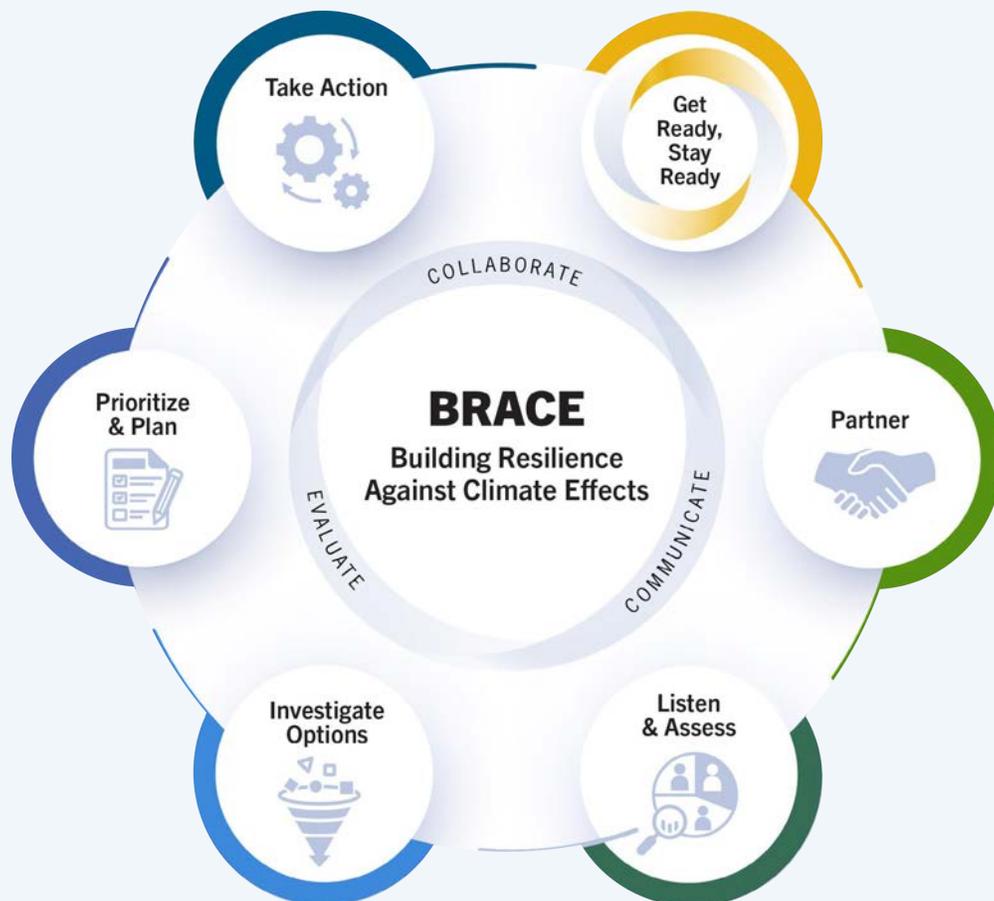
Our Climate Resilience Plan adapts the "BRACE Full Plan Template 2025" and consolidates the following recommended sections of the template into the document and appendix:

- The Climate Resilience Challenge
- Engaging Community
- Impacted Population
- Goals

- Theory of Change
- Needed Resources
- Anticipated Barriers
- Implementation Timeline

Analytical Frameworks (continued)

Social Resilience Framework

The Social Resilience Framework is a core framework of the Oregon Health Authority Climate and Health planning. It identifies four types of social relationships that are critical for adapting to stressors and making changes to address health inequities.

- **Bonding** relationships with self, family, faith, community or neighborhoods.
- **Bridging** relationships across social groups related to class, culture, ethnicity, age, religion or politics.
- **Linking** relationships between institutions with power, such as government with communities. These relationships could be referred to as friendships, family bonds, partnerships, social networks, coalitions, collaborations or community engagement.
- **Restoring** a healthy relationship with land, nature and place.

We will employ this four-part framework to "Envision a Future State" in each Action. This framework is adapted from OHA's Climate and Health in Oregon 2023 Report.
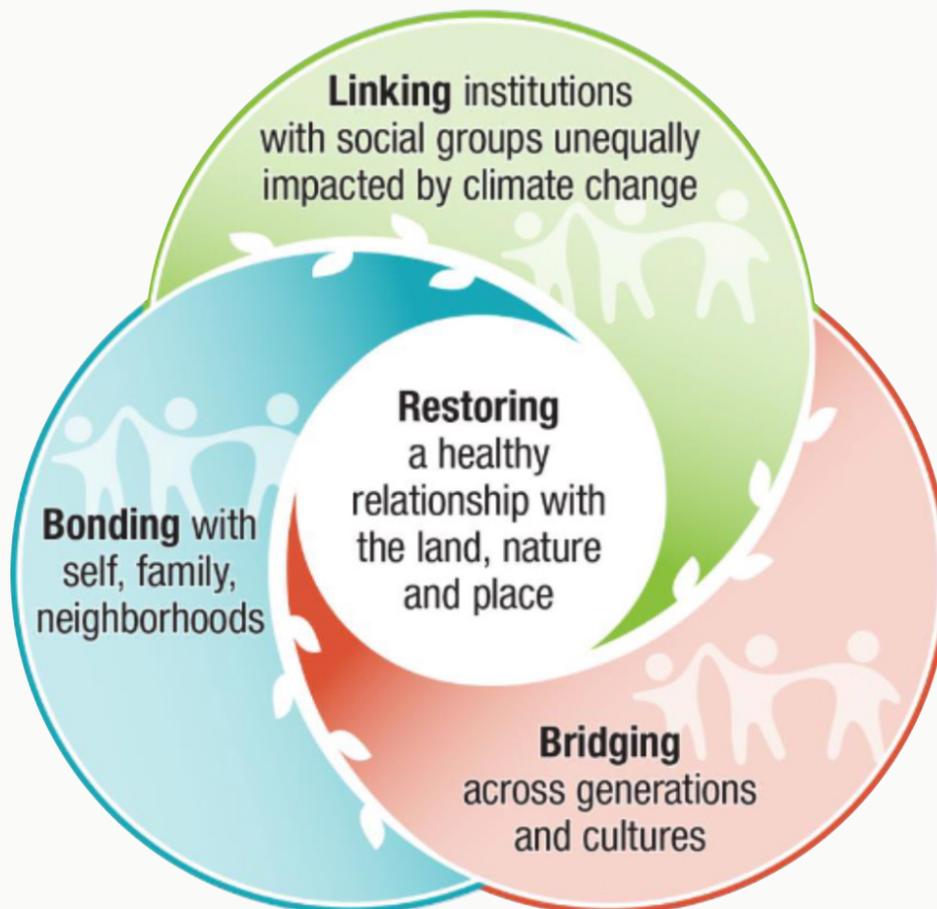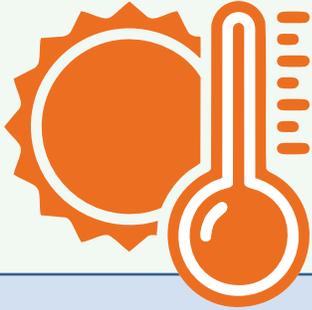
Action 1: Frontline Neighborhood Heat Resilience

Action 1 Implementation Steps

- Conduct assessments to identify potential Heat Resilience Focus Areas (HRFAs)
- Build partnerships with agencies and organizations in potential HRFAs
- Co-develop and pilot heat resilience solutions with partner organizations
- Measure and monitor changes to heat resilience in HRFAs

Urban heat islands are areas that experience higher temperatures than outlying areas. Factors contributing to the urban heat island effect include the modification of land surfaces by paving and building construction. These reduce vegetation and increase heat absorption and storage. This effect is exacerbated in frontline communities. (United Frontline Table, 2020)

Multnomah County already has an established heat response for hot days. Also, the Health Department monitors and reports on how extreme heat affect the community. The Public Health Division has deployed a suite of interventions to reduce risk from heat, as summarized in a case study by the Oregon Health Authority (OHA 2025).

Interventions include:

- Tri-county heat mapping campaign

- Heat vulnerability index

- Environmental justice zine

- "Schools as Community: Cleaner Air and Cooling Centers" report

- Community health worker climate and resilience training

- Wood Village Green pilot project

- Climate Justice Framework

- Climate litigation against Big Oil

The Division and the community have improved heat resilience markedly since the 2021 heat dome. But there have been few long-term, structural changes. As noted by PSU Professor Vivek Shandas, "The things that are low-hanging fruit right now, I think have pretty much been picked. The longer-term, sustained, deep retrofit that the city needs in order to be prepared for the increasing intensity and frequency of these heat waves? I have yet to see any of that." (Zhong and Rojanasakul, 2024) This action is intended to orient us towards policy, system, and environmental changes that advance long-term heat resilience in neighborhoods. It addresses the state accountability metric of reducing heat-related emergency department and urgent care visits, hospitalizations and fatalities.

Action 1: Frontline Neighborhood Heat Resilience (continued)

This action proposes the establishment of Heat Resilience Focus Areas in areas disproportionately affected by the heat island effect. The purpose of Heat Resilience Focus Areas is to concentrate resources and interventions in geographically defined areas. The intention is to eventually remove the designation once an area no longer meets the criteria as an urban heat island. Addressing urban heat islands involves partnerships between community-based organizations, government entities, and the private sector.

The Climate Resilience Challenge: Urban Heat

Heat Resilience Focus Areas are a way to operationalize the goals of a just transition. Just Transition is a vision-led, unifying and place-based set of principles, processes and practices. It builds economic and political power to shift from an extractive economy to a regenerative economy. There are many evidence-based interventions being implemented in other jurisdictions that offer a template.

- The City of Miami has adopted land use policies specific to urban heat islands. (ORDINANCE NO. 2019- 4252)
- New York City has a cool neighborhoods program. (Cool Neighborhoods NYC)
- The City of Phoenix has established the Office of Heat Response & Mitigation.

We propose criteria for designating an area as an Heat Resilience Focus Area based on:

- Observed temperature - results of the 2023 heat mapping campaign are in the highest quintile
- Equity - adaptive capacity and sensitivity captured in our Heat Vulnerability Index is in the highest quintile
- Outcomes - zipcodes with the highest rates of heat-related illness visits to ED in recent years
- Readiness - expressions of interest from partners, likely community champions, funding

Evening Air Temperature Top Quintile
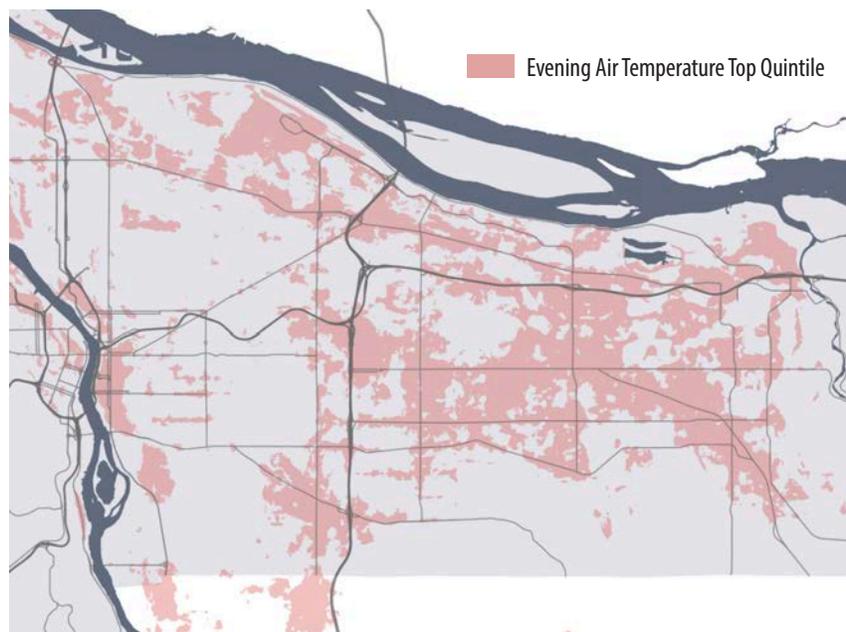
Action 1: Frontline Neighborhood Heat Resilience (continued)

Engaging Community

This action emerges from several years of engagement with community members on urban heat.

Portland Metro 2023 Heat Watch Report

On July 22nd, 2023 more than 100 volunteers partnered with County staff and CAPA Strategies. Their purpose that day was to map differences in temperature throughout the region. They mapped neighborhoods across Clackamas, Multnomah and Washington Counties. Volunteers attached special equipment to their cars and collected thousands of temperature readings. The result is a new tool for understanding how heat impacts our communities.

The heat mapping campaign data make it clear that heat is not experienced equally across our region. Across the Portland metro region, there was a 17 degree Fahrenheit difference between the hottest and coolest places.

Multnomah County's hottest cities included Wood Village, Maywood Park and Fairview. The hottest areas are near Lents, Mall 205, and industrial areas near Portland International Airport. These areas have similar attributes:

- Fewer trees
- More hard surfaces (like roads, rooftops and parking lots)
- Sprawling development patterns

The coolest areas were parks and rural forested areas.

CJP Highlight

The Climate Justice Plan community engagement process prioritized seeking input from those that are especially susceptible to heat-related illnesses, including older adults, Black and Indigenous communities, those with underlying health conditions, youth, people experiencing housing insecurity, as well as outdoor workers. In the Environmental Indicators Zine, one of the initial foundational community-centered documents to the Plan, there are quotes and stories shared from community members. They describe how extreme heat impacted their health, and how access to air conditioning and other cooling resources are not readily available.

The Climate Justice Plan sought input from frontline community members, as well as ideas for targeted strategies and solutions. The strategies that emerged that are aligned with Action 1 includes:

- Fund pavement removal and tree planting in heat island areas.
- Plant trees or provide other shade options near bus stops, playgrounds, and other areas where people gather and need shade. Create areas in the urban environment for animal cooling.
- Prioritize resilience investments in neighborhoods with greater vulnerability and need.
- Increase access to air conditioning and air purifiers. Expand Cooling Portland and eligibility criteria for cooling through Oregon's Section 1115 Medicaid waiver.

Action 1: Frontline Neighborhood Heat Resilience (continued)

- Establish rental inspection program and maximum heat standards for multifamily rental apartments.
- Make transit fare-free for all travel options during a declared extreme weather emergency.

Envisioning a Future State for Heat Resilience

Heat Resilience Focus Areas are intended to create neighborhoods where extreme heat no longer threatens health or deepens inequities. By centering frontline communities, those disproportionately burdened by urban heat islands due to historical disinvestment, we envision a future where streets are shaded by thriving tree canopies, buildings are designed for passive cooling, and public spaces foster both physical relief and social connection. Success will mean that heat emergencies will have fewer health impacts as systemic investments in infrastructure, policy, and community leadership transform the most vulnerable areas into models of climate resilience and equity.

This vision is grounded in the Social Resilience Framework, which strengthens the relationships that enable communities to adapt and thrive.

- Bonding ties within neighborhoods will form the foundation of resilience. They will ensure that residents can rely on mutual aid networks during heat waves, with check-ins for isolated seniors and culturally tailored cooling strategies.
- Bridging relationships across communities will unite diverse groups in advocacy. They will ensure that climate investments benefit all equitably and that intergenerational partnerships amplify collective power.
- Linking partnerships between government, researchers, and grassroots organizations will align resources with community priorities. They will embed equity into policies like reflective roofing mandates and anti-displacement protections.
- Finally, restoring connections to land and place will honor cultural traditions while expanding access to green spaces, urban gardens, and healing landscapes that cool both the body and spirit.

The ultimate measure of success will be the de-designation of Heat Resilience Focus Areas because systemic changes have made them unnecessary. By weaving together structural interventions, community leadership, and policy reform, Multnomah County will ensure that resilience is not just a response to crisis, but a lasting condition of justice and well-being.

Action 1: Frontline Neighborhood Heat Resilience (continued)

To realize this vision, the Health Department will:

- Lead cross-sector partnerships with cities, Metro, OHA, and CBOs to coordinate heat mitigation efforts.

- Partner with government and community organizations to pilot targeted interventions (e.g., shaded bus stops, tree-planting drives) in priority UHIs, informed by community asset mapping.

- Advocate for policy changes, such as cool roofing mandates and anti-displacement safeguards tied to green investments.

- Pursue trauma-informed outreach through Community Health Workers to address heat-related health risks and mental stress.

- Cultivate local champions and mutual aid networks to ensure vulnerable residents (e.g., seniors, low-income households, BIPOC communities) have access to cooling resources and emergency support.

- Develop policy and institutional changes that embed equity into land-use policies, building codes, and funding allocations to prioritize frontline neighborhoods and prevent green gentrification.

- Continue collecting, analyzing, and applying health and climate data to inform decisions, monitor trends, and evaluate progress.

- Designate and regularly evaluate Heat Resilience Focus Areas (HRFAs) to guide targeted action, ensure accountability, and adapt strategies based on community needs and outcomes.

Action 2: Housing Resilience

Action 2 Implementation Steps

- Conduct a countywide Health and Housing Vulnerability Assessment to identify areas of elevated climate risk and housing precarity
- Develop a suite of housing policies supported by evidence on climate impacts on public health
- Engage with partner agencies to assess the risk of conflagration and develop risk mitigation strategies

Safe, stable, and affordable housing is a critical line of defense against climate hazards. As climate change accelerates, extreme heat, wildfire smoke, flooding, and displacement increase health risks for frontline populations. (Hayden et al 2023) These risks are compounded by:

- The region's chronic housing crisis (Housing Needs Analysis 2024)

- High rates of cost-burdened households, and

- Longstanding inequities in access to housing, especially for low-income and frontline communities.

In this context, expanding housing protections and climate-adaptive housing stock is an urgent public health need.

While climate migration remains a growing concern, the housing crisis already places thousands of Multnomah County community members at risk. Population inflows due to climate displacement would add stress to an already constrained housing system. Unstable housing is linked to higher rates of chronic illness, mental health challenges, and avoidable hospitalizations. (Miller et al 2024) Housing interventions are essential to buffer exposure to environmental hazards and reduce the sensitivity of at-risk groups.

The Climate Resilience Challenge: Housing

Our community's resilience challenge with respect to housing is threefold:

1. Protect people who are unhoused from climate hazards by transitioning them into housing. Also, stabilize those with precarious housing by preventing eviction and involuntary displacement

2. Make existing housing resilient to climate hazards, such as heat, air pollution, and conflagration

3. Aggressively expand the housing supply to relieve market pressures

Action 2: Housing Resilience (continued)

Stable housing functions as a buffer against the health impacts of climate change. Housing protects against heat stress, smoke inhalation, and injury during extreme weather. It provides continuity of care and mental health stability. It also reduces the likelihood of climate-related hospitalizations. Access to affordable and resilient housing reduces emergency medical costs, hospital readmissions, and the health impacts of environmental stressors. Housing insecurity, conversely, correlates with increased risk of asthma, cardiovascular disease, depression, and other chronic health conditions. (World Health Organization Housing and Health 2018)

Expanding the housing supply reduces upward pressure on housing costs. It also makes the community better able to cope with sudden shocks that might constrain housing (e.g. landslides or wildfires) or rapidly increase demand for housing (e.g. disasters affecting adjacent communities).

Risks to Conflagration in Multnomah County

According to the climate risk company First Street, there are 94,832 properties in Multnomah County that have some risk of being affected by wildfire over the next 30 years. This represents 34% of all properties in Multnomah County. Overall, Multnomah County has a moderate risk of wildfire over the next 30 years. This is based on the level of risk the properties face rather than the proportion of properties with risk. (Fire Factor®)

Residential: Moderate Risk	Commercial: Moderate Risk	Infrastructure (e.g. power stations, waste facilities, etc.): Moderate Risk	Social (e.g. schools, government buildings, places of worship, etc.): Moderate Risk
77,397 of 280,492 homes at risk	6,430 of 22,017 properties at risk	208 of 486 facilities at risk	268 of 954 facilities at risk

Understanding Vulnerability Factors in Wildfire-Prone Areas

- Vegetation and fuel sources. The type of fuels sourcing a fire can have an impact on how intense it can get and how quickly it can spread.

- Possible ignition sources. Ignition can come from electric transmission lines or areas prone to lightning. Historic data can also show possible sources by identifying where human-caused fires are more likely to occur.

- Topography and weather. After a fire begins, the topography of the land and the weather work together to determine how far and fast fires spread. Fires generally climb uphill and more intense winds can spread a fire more quickly and carry embers.

Action 2: Housing Resilience (continued)

Engaging Community

CJP Highlight

The Climate Justice Plan identifies a universal goal that "Every community member has safe, healthy affordable housing." We discussed housing with steering committee members and subject matter experts within the County and local jurisdictions. They identified some key ways to support healthy climate driven practices. (CJP 2025) The Climate Justice Plan includes the following strategies aligned with Action 2.

- Create plans to accomodate an influx of climate migrants.
  - » Establish a dedicated task force or office to coordinate the reception and resettlement of climate migrants.
  - » Identify and secure suitable housing…for climate migrants.
  - » Develop culturally sensitive and linguistically appropriate outreach and support programs to facilitate integration and address the unique needs of climate migrants.
  - » Develop a universal basic income (UBI) or guaranteed income program (requires careful consideration of funding mechanisms, program design, and eligibility).
- Start a working group to understand urban conflagration risk and raise awareness and prevention.
  - » A working group should bring together experts to determine vulnerability, mitigation, and public education needed to address this looming threat.
- Develop more permanently affordable housing and promote homeownership, financial literacy, and access to home maintenance resources and a fully funded rent assistance program.
- Strengthen renter protections, expanding beyond a solely complaints based system.
- Increase funding for culturally specific weatherization and home repair programs.
  - » Pursue funding to expand the reach of the County's low-income weatherization and home repair programs; partner with the state and local partners to leverage efforts and ensure that we prioritize households with the greatest need.
- Support zoning and design reforms and incentives to increase density and social housing developments, such as the Inner East Side for All initiative. This includes neighborhoods that are designed to foster community by embedding community gardens, affordable small business spaces, etc.

Action 2: Housing Resilience (continued)

Envisioning a Future State for Resilient Housing

The Climate Justice Plan envisions a future where all residents have stable, healthy, and climate-resilient housing. Stable housing protects against displacement, extreme weather, and health inequities. By centering frontline communities disproportionately impacted by housing insecurity and climate risks, we imagine a transformation of our housing system into one that not only shelters but heals, connects, and empowers. Success will mean:

- Fewer households experiencing homelessness
- More affordable and disaster-ready homes
- Housing policies that prioritize well-being alongside physical infrastructure.

This vision is rooted in the Social Resilience Framework. It recognizes that housing stability depends on the strength of community relationships.

- Bonding ties within neighborhoods will foster trust and mutual aid. They will ensure residents can rely on one another during climate crises through tenant associations, peer support networks, and culturally responsive services.
- Bridging relationships across diverse groups spanning race, class, and language create solidarity. They will ensure equitable access to resilient housing through inclusive design, shared green spaces, and cooperative housing models.

- Linking partnerships between communities and institutions from public agencies to healthcare providers will embed resident voices in housing decisions. They will drive policies like tenant protections, climate-adaptive building codes, and participatory budgeting for resilience investments.
- Restoring connections to land and place will integrate housing with nature through urban gardens, passive cooling design, and culturally meaningful spaces that nurture both physical and mental health.

To realize this vision, the Health Department will:

- Participate in cross-sector coalitions with housing providers, homeless services, and climate experts to align resources and policies.
- Advocate for equitable policies and funding to expand affordable, resilient housing, prioritizing communities at highest risk of displacement. This includes supporting the Inner East Side for All initiative, as called for in the Climate Justice Plan.
- Support trauma-informed services embedded in housing programs, addressing the mental health impacts of instability and climate trauma.
- Promote restorative housing models, such as community land trusts and climate-ready retrofits, that reconnect residents to place and reduce environmental risks.

Action 2: Housing Resilience (continued)

Equity and Climate Migration

As climate change accelerates, Multnomah County could experience an influx of people displaced by climate impacts due to displacement from extreme weather events, rising sea levels, and ecosystem degradation. While Oregon ranks low in climate vulnerability, its proximity to highly vulnerable regions and the presence of established Pacific Islander and other immigrant communities make it a likely destination for those seeking refuge. (CVI 2023) Additionally, local communities already face housing shortages and service gaps. This could be exacerbated by increased migration. To prepare for and equitably accommodate people displaced by climate impacts, Multnomah County should continue to update evacuation plans, develop climate migrant support systems, and enhance relevant infrastructure.

As people displaced by climate impacts arrive from regions experiencing sea-level rise, prolonged drought, wildfires, or ecosystem collapse, housing systems could come under increased strain. Populations from Oregon's coastal and eastern regions, the American Southwest, and Pacific Island nations are particularly likely to be affected. These communities may face compounding health vulnerabilities linked to trauma, economic instability, and limited access to culturally appropriate services. Climate migration intersects with health in complex ways. People often arrive with greater health needs and less access to care. Without a plan to expand housing and services, the health system could face additional strain and

outcomes for both existing residents and new arrivals could worsen. There is also potential for in-migration of wealthy households to disrupt housing markets and access to resources. (Keenan et al. 2018)

Research on refugee adult populations reveals a higher prevalence of chronic diseases compared to non-refugee immigrant adults. Between 21% and 25% of refugee adults reportedly have a chronic condition. This is up to two times higher than the rate observed among non-refugee immigrant adults (13–16%). The most commonly reported chronic diseases among refugee adults include diabetes and hypertension (Kumar 2021). People displaced by climate events tend to have lower access to health care, and a surge in medical demand can delay regular health care services for the general population, slowing health care services for everyone. (Ebi et al 2022)

Government agencies in Multnomah County can prepare for externally displaced people arriving in our community by engaging in the following:

- Advocate for the legal recognition of people displaced by climate impacts and build housing eligibility pathways regardless of immigration status.

- Center affected communities in relocation planning to ensure culturally relevant and equitable solutions.

- Provide affordable housing options to prevent displacement and homelessness for those forced to migrate.

Action 2: Housing Resilience (continued)

- Develop culturally sensitive and linguistically appropriate outreach and support programs to facilitate integration and address the unique needs of people displaced by climate impacts.

- Provide mental health support and trauma-informed care to address the psychological impacts of displacement.

- Foster integration between migrant populations and existing communities to prevent social tensions and promote well-being. This could involve community-building initiatives, intercultural exchange programs, and addressing potential discrimination or stigma.

- Establish clear lines of communication and collaboration between different government agencies, healthcare providers, community organizations, and others to ensure a coordinated and effective response.

Government agencies in Multnomah County can prepare for internally displaced residents by engaging in the following:

- Implement Anti-Displacement Housing Policies
  - » Enforce rent stabilization, inclusionary zoning, and community land trusts to protect affordable housing.
  - » Tax or regulate short-term rentals (e.g., Airbnb) and vacant luxury properties to prevent speculative pricing.

- Prioritize Equitable Climate Adaptation Funding
  - » Direct state/federal climate resilience funds toward affordable housing rather than market-driven development.
  - » Require impact assessments for new high-end developments to evaluate displacement risks.

- Strengthen Tenant & Indigenous Land Rights
  - » Expand tenant protections (e.g., right-to-return laws, eviction moratoriums) for communities at risk.
  - » Support tribal sovereignty and Indigenous-led housing. For example, Hawaii's Hawaii's Kū'ei Initiative combats displacement of Native Hawaiians through land trusts.

Action 3: Mental Wellness Resilience

Action 3 Implementation Steps

- Develop measures of mental health impacts of climate change
- Establish a joint work plan with Behavioral Health
- Build a one-county approach to expanding and integrating trauma and healing education across systems
- Collaborate with community organizations to establish and maintain long-term trauma recovery networks

A growing body of evidence suggests that one of the most widespread and lasting health impacts of climate change is harm to mental well-being. (WHO Policy Brief 2022) This section outlines interventions to move towards a population level of universal literacy on mental wellness. The interventions outlined below are designed to address the mental, physical, and social well-being of our communities. They are organized around three key intervention areas:

- Trauma and Healing Education

- Building Social Cohesion

- Creating a Transformational Resilience Network

Mental Wellness Literacy (MWL) is the knowledge and skills required to identify, understand, and manage mental health and trauma conditions. Integrating MWL as a core community universal principle builds resilience, reduces stigma, and equips communities with tools to handle stressors, including environmental hazards.

The Climate Resilience Challenge: Mental Health

Academics and government have increasingly explored mental health and psychosocial interventions in the context of climate change. Effective strategies for fostering psychological resilience include protective coping mechanisms such as "active hope" and and "meaning-focused coping."

. These approaches emphasize:

- Acting in alignment with personal values

- Developing positive narratives

- Creating hope through action and trust in societal institutions.

However, most existing research has focused on treating psychiatric disorders rather than promoting overall well-being. This is despite the World Health Organization's (WHO)

Action 3: Mental Wellness Resilience (continued)

definition of mental health as not just the absence of disease but a holistic state of emotional, psychological, and social well-being. A broader conceptual framework is needed to fully recognize the interventions that promote psychological strengths and emotional resilience in response to climate stressors. (Xue et al 2024)

Mental health interventions exist at multiple levels, from macrosystem (policy and financial support) to microsystem (individual therapy and self-help tools). At the exosystem (institutions, the media, and local government), interventions such as mental health media campaigns and service network planning workshops help raise awareness and improve coordination of mental health services. Community-based interventions, categorized under mesosystem strategies, include participatory activities, facilitated support groups, and outreach programs that build collective resilience. Meanwhile, at the microsystem level, individualized interventions such as psychotherapy, resilience-building programs, and self-guided mental health tools focus on direct, personal support. While most evidence supports microsystem-level interventions, more rigorous studies are needed to evaluate their scalability and effectiveness across diverse populations. (Xue et al 2024)

Sustainable mental health care also includes preventive strategies that reduce the need for intensive treatment. The European Psychiatric Association emphasizes the role of resilience-building, social determinants of health, and environmental interventions in mitigating mental health burdens. Addressing social determinants such as poverty, homelessness, and social isolation can reduce the incidence of severe mental health conditions. This will also ensure access to psychotherapy, peer support, and telehealth services that enhance community-wide mental well-being. Expanding green space access has also been identified as a valuable intervention. It benefits both the general public and individuals receiving mental health care by reducing stress and promoting overall psychological well-being. These multi-level approaches reinforce the need for a comprehensive, systems-based response to the mental health impacts of climate change. (Brandt et al 2024)

These interventions are based on evidence linking climate change to increased anxiety, PTSD, and other mental health disorders. These interventions have been prioritized through community engagement with frontline communities who identified climate-related trauma as a critical issue. Similar programs, such as those integrating Social-Emotional Learning (SEL) frameworks or Mental Health First Aid (MHFA), have demonstrated positive psychological outcomes in disaster-affected communities. Many frontline populations in Multnomah County lack green space access, face higher exposure to extreme heat, and experience mental health burdens exacerbated by climate change. These interventions aim to:

- Reduce impacts from climate threats through education and mental wellness literacy

- Reduce sensitivity by integrating mental wellness that lower stress and chronic disease risks

- Reduce isolation, especially among older adults, non-English speakers, and people with disabilities

Action 3: Mental Wellness Resilience (continued)

- Expand Neighborhood Emergency Teams (NETs) and community-led response groups
- Enhance community resilience by training volunteers and formalizing neighborhood response networks

Engaging Community

In our collaborations to-date, community-based organizations especially highlight lack of information as a major barrier to climate adaptation. Frontline residents emphasized the need for trusted, local support networks to provide check-ins, information, and emergency assistance.

CJP Highlight

The Climate Justice Plan steering committee, representing frontline communities, prioritized several strategies that aligned with Mental Wellness Literacy. The Climate Justice Plan includes the following strategies that are aligned with Action 3.

- Health literacy education campaign to access resources and preventative care.
  - » Empower individuals and communities to make informed decisions about their health and well-being in the face of climate change by improving climate health literacy and facilitating access to resources and preventative care.
- Comprehensive Climate Health Literacy Campaign.
  - » Explain the health impacts of climate change, including extreme weather events, air pollution, waterborne diseases and mental health effects.
  - » Simplify scientific information and terminology related to climate and health.
  - » Raise awareness about preventative measures, preparedness strategies and available resources.
  - » Promote community resilience and adaptation to climate change.
- Train healthcare professionals about climate interventions and technology to support Medicaid patients.
  - » Equip healthcare professionals serving Medicaid patients with the knowledge and skills to integrate climate change considerations into their practice, leverage relevant technologies and promote equitable access to climate-resilient healthcare.
- Improve access for residents to join Neighborhood Emergency Teams (NETs), support resilience workshops and create culturally specific offerings.
  - » Expand the number and reach of culturally specific resilience education opportunities and training. This should include leveraging a Traditional Health Worker train-the-trainer model which includes accessible popular education approaches. Incorporate these resources into social service and health education pathways.
  - » Support community-based organizations to lead and conduct their own programs.

Action 3: Mental Wellness Resilience (continued)

Envisioning a Future State for Mental Wellness Resilience

The Multnomah County Climate Justice Plan envisions a future where all residents, with a concerted focus on frontline communities facing the greatest climate risks, have the knowledge, skills, and support to navigate the mental and emotional challenges of a changing climate. We strive for a community where mental wellness is understood as foundational to climate resilience, where trauma-informed care is woven into public health systems, and where strong social connections foster collective healing. Success will mean:

- Reduced climate-related anxiety and PTSD

- Increased social cohesion during crises

- Institutionalized practices that prioritize mental well-being alongside physical health in climate adaptation efforts.

This vision is grounded in the Social Resilience Framework, which recognizes that mental resilience grows from the strength of our relationships.

- Bonding ties within families, neighborhoods, and cultural groups will create networks of trust and mutual aid, ensuring no one faces climate stressors alone.

- Bridging relationships across generations, languages, and lived experiences will foster solidarity, linking youth climate advocates with elders' wisdom and uniting diverse communities through shared healing practices.

- Linking partnerships between public health institutions, schools, and grassroots organizations will embed mental wellness literacy into policies, ensuring equitable access to care and culturally responsive crisis response.

- Restoring connections to land and nature through urban gardens, green therapy programs, and stewardship of ancestral places will anchor mental health in the healing power of the natural world.

To realize this vision, the Public Health Division will:

- Work with partners to expand mental wellness literacy in schools, workplaces, and healthcare systems, training Community Health Workers and peers to address climate trauma and build coping skills.

- Partner to pilot community-led resilience programs, such as intergenerational mentorships and neighborhood healing circles, to strengthen social ties and crisis preparedness.

- Advocate for institutional change, embedding trauma-informed approaches into emergency response and ensuring mental health is central to climate adaptation funding and policy.

- Expand culturally relevant and audience-specific communication channels.

- Provide a safe space to process stress from climate-related health crises through resilience circles.

- Collaborate with parks, housing agencies, and environmental groups to co-design therapeutic green spaces and nature-based programs that reduce stress and foster belonging.

A Climate Resilient Future for Multnomah County

Multnomah County has a long-standing commitment to environmental and climate planning. This plan builds on that foundation with a clear focus on protecting and improving community health. As climate change intensifies, the health impacts, ranging from heat-related illness and respiratory conditions to mental health strain and trauma, demand urgent, coordinated public health action. This plan identifies emerging health challenges and outlines actionable strategies to mitigate and adapt to these risks.

The Climate and Health Resilience Plan directly reflects the insights and strategies voiced and co-created with community leaders and members during the development of the Climate Justice Plan. Recognizing the critical connections between climate change, health, and social justice, this Plan has translated the community-driven Climate Justice Plan goals and strategies into actionable public health interventions and actions. The actions outlined in this Plan are a result of listening to and partnering with frontline communities to address their specific needs and priorities.

Heat Resilience Focus Areas offer a transformative opportunity to reduce health inequities by strategically directing resources to communities most affected by urban heat and environmental injustice. Secure, stable, and climate-resilient housing provides a critical foundation for managing the health impacts of the climate crisis. Advancing universal mental wellness literacy is a critical step toward building a population that is not only more resilient to climate-related stressors, but also better equipped to navigate the cumulative trauma of displacement, disasters, and inequities. A climate-resilient Multnomah County is achievable and essential and must be rooted in equitable health outcomes for all.

References

American Psychiatric Association. (1989). Treatments of psychiatric disorders: A task force report of the American Psychiatric Association. American Psychiatric Publishing.

Ashbaugh, M., & Kittner, N. (2024). Addressing extreme urban heat and energy vulnerability of renters in Portland, OR with resilient household energy policies. Energy Policy, 190, 114143

Benevolenza, M. A., & De Rigne, L. (2019). The impact of climate change and natural disasters on vulnerable populations: A systematic review of literature. Journal of Human Behavior in the Social Environment, 29(2), 266–281.

Brandt, L., Adorjan, K., Catthoor, K., Chkonia, E., Falkai, P., Fiorillo, A., Gondek, T. M., Le Vay, J. N., Rojnic, M., Meyer-Lindenberg, A., Heinz, A., Dom, G., & Luykx, J. J. (2024). Climate change and mental health: Position paper of the European Psychiatric Association. European Psychiatry, 67(1), e41, 1–9.

Center for Substance Abuse Treatment. (2014). Trauma-informed care in behavioral health services (Treatment Improvement Protocol [TIP] Series, No. 57). Substance Abuse and Mental Health Services Administration.

Centers for Disease Control and Prevention. (n.d.). Building Resilience Against Climate Effects (BRACE) 2025. UMass Chan Medical School.

City of Miami Beach. (2019). Urban Heat Island Ordinance (No. 2019-4252).

City of New York. (n.d.). Cool Neighborhoods NYC: A comprehensive approach to keep communities safe in extreme heat.

Ebi, K. L., & McLeman, R. (2022). Climate-related migration and displacement. BMJ, 369, m2389.

First Street Foundation. (2025). Does Multnomah County have Wildfire Risk?

Fleishman, E. (Ed.). (2025). Seventh Oregon climate assessment. Oregon Climate Change Research Institute, Oregon State University.

Hess, J. J., McDowell, J. Z., & Luber, G. (2012). Integrating climate change adaptation into public health practice: Using adaptive management to increase adaptive capacity and build resilience. Environmental Health Perspectives, 120(2), 171–179.

Jay, O., Capon, A., Berry, P., Broderick, C., de Dear, R., Havenith, G., Honda, Y., Kovats, R. S., Ma, W., Malik, A., Morris, N. B., Nybo, L., Seneviratne, S. I., Vanos, J., & Ebi, K. L. (2021). Reducing the health effects of hot weather and heat extremes: From personal cooling strategies to green cities. The Lancet, 398(10301), 709–724.

Kumar, G. S., Beeler, J. A., Seagle, E. E., & Jentes, E. S. (2021). Long-term physical health outcomes of resettled refugee populations in the United States: A scoping review. Journal of Immigrant and Minority Health, 23(4), 813–823.

Lawrance, E., Thompson, R., Newberry Le Vay, J., Page, L., & Jennings, N. (2022). The impact of climate change on mental health and emotional well-being: A narrative review of current evidence, and its implications. International Review of Psychiatry, 34(5), 443–498.

Metro. (2021). Regional affordable housing strategies.

References (continued)

Newberry Le Vay, J., Cunningham, A., Soul, L., Dave, H., Hoath, L., & Lawrance, E. L. (2024). Integrating mental health into climate change education to inspire climate action while safeguarding mental health. Frontiers in Psychology, 14, 1298623.

OPB. (2023, July 26). Oregon has an extreme housing shortage. Here's what could be done.

OPB. (2025, January 28). Oregon needs to build 29,500 more homes each year, chief economist says.

Oregon Department of Administrative Services. (2024). Oregon housing needs analysis.

Oregon Health Authority. (2023). Climate and health in Oregon 2023 report.

Oregon Health Authority. (2025). Rising temperatures, rising solutions: Multnomah County Health Department builds resilience against extreme heat.

Parsons, E. S., Jowell, A., Veidis, E., et al. (2024). Climate change and inequality. Pediatric Research.

Portland Housing Bureau. (2023). State of housing in Portland 2023: Demographics and housing stock.

Prospective Transformation Resilience Coordinating Networks. (2024). Handbook: Prospective transformation resilience coordinating networks.

Sifuentes, J. E., York, E. A., & Thomas, J. R. (2022). Climate change and youth mental health. Oregon Health Authority.

UMass Chan Medical School. (2025). BRACE full plan template.

UN Environment Programme Finance Initiative. (2023). Climate risks in the real estate sector.

Underhill, K., Earnshaw, V. A., & Nelson, K. M. (2024). The synergistic health threats of state laws targeting marginalized groups in the United States. American Journal of Public Health, 114(7), 1335–1343.

Williams, D. R., Lawrence, J. A., Davis, B. A., & Vu, C. (2019). Understanding how discrimination can affect health. Health Services Research, 54(Suppl 2), 1374–1388.

World Health Organization. (2018). WHO housing and health guidelines.

World Health Organization. (2022). Mental health and climate change: Policy brief.

Xue, S., Massazza, A., Akhter-Khan, S. C., et al. (2024). Mental health and psychosocial interventions in the context of climate change: A scoping review. npj Mental Health Research, 3(10).

Zhog, R. and Rojanasakul, M. "We mapped heat in 30 U.S. Cities. Some sidewalks were over 130 degrees." New York Times 17 July 2024.

Appendix A.
Impacted Populations

Action 1: Frontline Neighborhood Heat Resilience

Residents living in Urban Heat Islands in Multnomah County, with a focus on frontline communities.

To assess the populations most impacted by extreme heat, we used data from the Portland Metro 2023 Heat Watch report. We identified census tracts at and above the 80th percentile for average evening air temperature and compared these tracts to those at the 20th percentile or below. We then compared the average indicator values from our 2024 Heat Vulnerability Index to assess the differences in demographics between these high and low heat exposure tract groupings (Table 1). The difference in average evening air temperature was minimal between these two analysis groups. However, tracts within the highest heat exposure group on average have a greater share of:

- Black, Indigenous, and people of color (further explored in Table 2)
- People living in rental housing
- People born outside of the United States
- People with limited English language proficiency
- People with less than a Bachelor's degree level of education

Additionally, people living in the highest heat exposure census tracts appear to experience greater existing health burdens compared to the lowest exposure group of tracts. This includes higher crude prevalence of coronary heart disease, diabetes, cognitive difficulties, and self-reported poor physical health. While high heat exposure tracts have a smaller share of people over the age of 64 than low heat exposure tracts, a greater share of people over the age of 64 live alone in high heat exposure tracts compared to low heat exposure tracts.

Appendix A.
Impacted Populations (continued)

Table 1. Evening Air Temperatures & Demographics
Tract Averages for Highest and Lowest Quintiles for Evening Air Temperature
* American Community Survey 2022 5-Year Estimates; CDC PLACES, 2023

	Top Quintile	**Bottom Quintile**
Evening Air Temperature	84F	81F
Tract Population	4,414 (1,365 - 7,983)	4,057 (1,027 - 7,758)
Under 18 Years Old	18% (2.3% - 36%)	19% (7.3% - 25%)
Over 64 Years Old	13% (3.7% - 26%)	18% (6.8% - 30%)
Percent of Senior Population Living Alone	36% (10% - 100%)	27% (7.8% - 57%)
BIPOC	42% (21% - 65%)	23% (12% - 46%)
Rental Housing	51% (22% - 100%)	27% (4.5% - 75%)
Foreign Born	20% (3.5% - 39%)	10% (2.7% - 26%)
Limited English Proficiency	14% (0% - 32%)	3.9% (0% - 22%)
Cognitive Difficulty	9.6% (1.0% - 33%)	4.4% (0.3% - 15%)
Less than Bachelors Degree Education	68% (17% - 88%)	38% (15% - 78%)
Chronic Heart Disease Crude Prevalence	5.4% (2.3% - 8%)	4.6% (3.2% - 6.8%)
Diabetes Crude Prevalence	9% (3.8% - 13%)	7% (5.1% - 10%)
Poor Physical Health Crude Prevalence	12% (5.9% - 16%)	8.7% (7% - 12%)
Male Population	51% (41% - 64%)	49% (40% - 56%)

Appendix A.
Impacted Populations (continued)

Table 2. Evening Air Temperature & Race/Ethnicity *Tract Averages for Highest and Lowest Quintiles for Evening Air Temperature* * American Community Survey 2022 5-Year Estimates		
	Top Quintile	**Bottom Quintile**
White	58% (35% - 79%)	77% (54% - 88%)
Black or African American	6.7% (0.1% - 18%)	2.3% (0% - 10%)
Hispanic or Latino	18% (4.8% - 47%)	7.6% (2.4% - 19%)
American Indian or Alaskan Native	0.6% (0% - 7.6%)	0.3% (0% - 1.8%)
Asian	9.7% (2.4% - 36%)	6.3% (0.2% - 25%)
Native Hawaiian or Pacific Islander	0.95% (0% - 4%)	0.2% (0% - 2.5%)
Some Other Race	0.2% (0% - 1.6%)	0.5% (0% - 2.9%)
Two or More Races	6% (1.2% - 16%)	6% (1.4% - 11%)

Action 2: Housing Resilience

Current Housing Landscape in Portland

Portland's housing stock remains strained, with a near-even split between single-family (52%) and multifamily (48%) units, totaling approximately 305,000 homes. Despite an annual target of 5,000 new units to meet demand by 2045, production has lagged, averaging only 3,172 units yearly from 2018–2023. Multifamily development dominates new construction (80% of recent units), concentrated in neighborhoods like the Central City and Interstate Corridor. However, 2023 saw a sharp decline in permits and production. Meanwhile, homelessness has surged with a 30% increase in unsheltered individuals since 2019. This has disproportionately impacted BIPOC communities—40% of Multnomah County's homeless population in 2022 were People of Color, with Native American, Black, and Pacific Islander residents overrepresented. The Joint Office of Homeless Services reports growing enrollment in permanent housing programs. Yet prevention efforts are struggling to keep pace with eviction risks. (Portland Housing Bureau, 2023)

Disparities in Housing Insecurity and Climate Pressures

Housing insecurity in Portland falls heavily on renters.

BIPOC households face homeownership rates 13–25% below white households.

Low-income families, people with disabilities, and undocumented migrants are particularly vulnerable, as rising rents and stagnant wages exacerbate displacement risks.

Climate change intensifies these inequities. Projected inflows of climate migrants from drought- and wildfire-affected regions could further strain housing systems. Wealthier in-migrants may also inflate prices. This is being seen in gentrifying neighborhoods like St. Johns and Woodstock. Without targeted policies to expand affordable housing, protect tenants, and integrate climate resilience, existing disparities will deepen. This leaves marginalized communities at greater risk of homelessness and health crises. (Portland Housing Bureau, 2023)

There is a large deficit of housing supply for low income rentals for the State and Metro Area illustrated by current numbers.

Extremely Low Income Renter Households

- Oregon: 141,795
- Port-Vanc-Hills (Metro): 87,400

Affordable and Available Rental Homes

- Oregon: 32,113
- Port-Vanc-Hills (Metro): 19,183

Deficit of Units At or Below Extremely Low Income

- Oregon: -109,682
- Port-Vanc-Hills (Metro): -68,217

Deficit of Units At or Below Area Media Income

- Oregon: -139,178
- Port-Vanc-Hills (Metro): -89,475

Source: American Community Survey (ACS) and ACS Public Use Microdata Sample (PUMS).

Analyzing the existing shelter systems can provide insights into the challenges faced. In Multnomah County there are 6,297 people experiencing homelessness, with 3,944 unsheltered, 1,821 in shelter, and 532 in transitional housing. These figures were obtained from Point in Time Count conducted between January 25-31, 2023 and highlight the current state of the shelter system. There is deficit of **89,475** affordable and available rental units for individuals at or below 50% of the area median income.

Action 3: Mental Wellness Resilience

Primary beneficiaries are frontline communities.

Within the BRACE framework, focus populations are:

- BIPOC communities
- People with lower income
- Women and femme people
- Older adults, children and youth
- People with disabilities
- Non-English speakers, and
- LGBTQ+ populations.

These groups experience higher vulnerability due to systemic barriers to mental health care, disproportionate exposure to climate risks, and existing social stressors.

Appendix B.
Anticipated Barriers

Action 1: Frontline Neighborhood Heat Resilience

There are a few limitations of interventions at the landscape and urban levels. For example, parks require large areas of open space. High capital costs are associated with cost of canopy materials, electric vehicle fleets and active transport infrastructure that would reduce GHGs. (Lancet 2021) Air conditioning is a widespread but unsustainable cooling solution. Worldwide air conditioning sales have climbed steeply during the past few decades. The International Energy Agency estimated that annual sales nearly quadrupled to 135 million units between 1990 and 2016. (Lancet 2021) Yet AC exacerbates urban heat by adding another source of anthropogenic heat and uses more energy than heat pumps to do the same task.

Green Investments Can Drive Gentrification and Displacement

Gentrification presents a significant risk when climate resilience and green infrastructure efforts are implemented without intentional equity safeguards. New parks, greenways, and street tree planting can improve neighborhood livability. However, they can also increase property values and attract higher-income residents. Without policy measures to protect existing residents, these changes often lead to the displacement of the very communities that resilience investments were meant to serve. Research on "green gentrification" has demonstrated that, across the U.S., neighborhoods receiving significant green investment often experience an influx of wealthier households

and an outmigration of low-income and BIPOC residents. (Energy Policy 2024) Decarbonization policies in U.S. cities can reinforce inequality when not paired with anti-displacement strategies.

In Portland, these patterns have already emerged. In the Cully neighborhood two major parks were added in the 2010s: Khunamokwst Park and Thomas Cully Park. These were vital investments for historically park-deficient communities, but they coincided with rapidly increasing real estate prices. Cully's median home price rose 203% (2000–2020) faster than Portland's average (90%). This is attributed to multiple factors, including parks, transit, and broader market trends. (Metro 2021)

Direct causality between park development and rising home prices in neighborhoods is complex. A significant increase in property values over the past two decades has occurred in Cully. Home values in Cully have increased by 203%, compared to a 90% increase citywide during the same period. (Voices of Cully: Experiencing the home amid gentrification | ScholarWorks) Despite historical underinvestment, housing prices in Cully have accelerated in line with the broader Portland market. The median sales price for a home in Cully is approximately $500,000, marking a 7.4% increase over the previous year. (Cully's Revolutionary Urban Renewal Plan Cleared For Action - Habitat Portland Region) This trend underscores the importance of implementing equitable

development practices. The goal is to ensure that long-standing residents benefit from neighborhood improvements without facing displacement.

Portland has also developed innovative approaches to counteract these risks. This includes the Living Cully partnership, which embeds anti-displacement strategies alongside green investments. These efforts aim to balance neighborhood revitalization with the preservation of affordable housing and cultural diversity.

Public resources can be misallocated, leaving frontline communities underfunded or excluded. This was notable in post-Katrina New Orleans, where wealthier, whiter households received significantly more public recovery funding than low-income or Black residents. In Portland, the 82nd Avenue Coalition has raised concerns that infrastructure improvements intended to benefit safety and climate resilience could catalyze displacement without direct affordability protections. These examples illustrate that equity must be structurally embedded into climate resilience planning. This is especially true when large-scale green investments are involved. To prevent green gentrification in Multnomah County, housing stability measures—such as community land trusts, tenant protections, and land use policies that prioritize affordability—must be implemented in tandem with climate adaptation projects.

Unequal Implementation Can Worsen Heat Disparities

- Unequal distribution of resources reinforces existing disparities, where wealthier or politically connected areas receive priority investments while lower-income neighborhoods wait years for improvements.

Short-Term Cooling Solutions Need to be in Coordination with Long-Term Climate Adaptation

- Emergency cooling centers, misting stations, and portable shade structures provide immediate relief. But over-reliance on short-term solutions without long term coordination could impact funding from long-term, systemic heat mitigation efforts.

- Without permanent changes to urban design, housing policy, and transportation infrastructure frontline communities remain dependent on crisis-driven interventions. Short term policies are important to protect frontline communities. However, long term resilience solutions should work in coordination with short term plans.

Lack of Community Engagement Can Lead to Mistrust and Resistance

- If we develop heat resilience programs without meaningful community input, they risk failing due to lack of buy-in, cultural mismatch, or misaligned priorities.

- Top-down decision-making erodes trust, making it difficult to secure long-term participation in climate resilience efforts.

- Lack of culturally responsive outreach prevents frontline populations from accessing cooling resources and adaptation programs.

Insufficient Workforce and Funding Can Hinder Implementation

- Heat resilience projects require ongoing maintenance, workforce development, and financial sustainability. Without dedicated funding and trained personnel, tree-planting initiatives fail, cooling infrastructure deteriorates, and resilience efforts stall.

- Poorly maintained urban forests and green spaces reduce long-term cooling benefits.

- Seasonal and temporary funding gaps disrupt project implementation.

- Lack of trained workforce slows infrastructure projects and increases maintenance costs.

Maximum Heat Standards for Indoor Temperatures (Rental Inspections Program)

Research has shown that heat waves and even periods of elevated heat can make indoor temperatures unhealthy, and even deadly, for households. Renters often lack resources and options to protect themselves and their families. Landlords play a key role in ensuring the safety and well-being of their tenants. The County will work with partners to convene a coalition to:

- Establish maximum indoor temperature thresholds for rental units and

- Explore the development of a mandatory rental inspection program, including enforcement mechanisms.

In addition, the County will expand existing tenant and landlord education efforts around unsafe living conditions, including the risk of heat.

Action 2: Housing Resilience

The housing system in Multnomah County faces many intersecting threats that could challenge the effectiveness of resilience-focused interventions. One such threat is the increased risk of wildfire and conflagration, particularly in areas such as Forest Park. As more development occurs near wildland-urban interfaces, the lack of fire-adapted housing, emergency evacuation planning, and community preparedness elevates both physical and mental health risks.

Structural and regulatory barriers further slow down the ability to respond. Land use and zoning restrictions, combined with protracted permitting, entitlement, and design review processes, delay the construction of needed housing. These delays drive up costs, inhibit density, and perpetuate housing scarcity. In Portland, land use reviews and permitting delays average 18–24 months for multifamily housing, with 78% of developers citing these processes as a top barrier to production. (Portland Housing Bureau, 2023) Streamlining these processes is essential to increasing the pace of affordable, climate-adaptive housing development.

The economic impacts of the climate crisis continue to shape the cost of living in ways that extend beyond direct housing expenses. Utility costs, insurance premiums, and supply chain

disruptions all contribute to unstable household budgets. Without interventions to relieve market pressures and increase housing supply through reform and incentives, the county will continue to see widening gaps in health and housing outcomes.

The anticipated influx of people relocating due to climate-related displacement will place additional stress on an already overburdened housing market. While planning for climate migration is essential, this growth coincides with widespread economic instability. Pressures include rising insurance costs, inflation in food and utility expenses, and reduced affordability in housing and rental markets. These trends threaten both existing residents and incoming populations, especially those already experiencing housing insecurity.

Climate Risks in the Real Estate

Transition Risks	Physical Risks
• Increasing Regulation & Policy Pressure: Stricter building standards (e.g., energy efficiency, bans on gas appliances). Higher costs for retrofitting non-compliant buildings (e.g., EPC ratings). • Cost of Indirect Emissions: Rising expenses for carbon-intensive construction materials and energy. Energy-inefficient buildings face higher operational costs and lower valuations. • Shifting Market Preferences: Growing demand for green buildings with renewable energy and efficiency. Lower demand for carbon-intensive properties, reducing rental income and asset values. • Change in Investor Sentiment: Investors favor low-emission assets, leading to divestment from high-carbon properties. • Reputational Risks: Public backlash against developers linked to deforestation or high emissions.	• Inland Flooding: Increased repair costs and business disruptions due to extreme rainfall. • Extreme Storms & Wind: Damage leading to long-term value depreciation. • Wildfires: Destruction of properties in high-risk zones, reduced insurability, and lower demand. • Subsidence: Structural damage from sinking ground, increasing maintenance costs. • Heat & Water Stress: Higher cooling demands raise energy costs; water scarcity impacts operations.

Source: Climate Risks in the Real Estate Sector March 2023 UN Environment Programme - Finance Initiative

Appendix B.
Anticipated Barriers (continued)

Action 3: Mental Wellness Resilience

Limited Funding

Limited funding for trauma-specific climate programs slows progress. Leveraging existing funding streams to support mental health integration ensures sustainability. Many communities distrust government-led initiatives, reducing engagement. Centering community leadership in program development and using trusted messengers for outreach builds credibility and participation. Work schedules and caregiving responsibilities limit involvement in resilience programs. Offering flexible engagement options, such as digital check-ins and weekend events, increases accessibility. Long-term sustainability requires stable funding. Establishing public-private funding mechanisms with local businesses and foundations secures ongoing resources.

Risk of Limited Accessibility

There is a risk of limited accessibility if interventions are not culturally tailored or if mental health stigma prevents participation. If services are not universally available, there may be perceived inequities or pushback from groups not prioritized for resources. Trust must be established promptly and outreach must be culturally customized. Certain higher-income or historically advantaged communities may view disproportionate emphasis on frontline groups and oppose program enactment. In the absence of equitable implementation, resources may be disproportionately allocated to more affluent areas already advantaged by greenspace accessibility.

Unequal Implementation

Unequal implementation across communities poses a significant risk of exacerbating existing disparities. It is essential to prioritize equity-driven funding models that direct resources to the highest-need areas first. Programs often disproportionately benefit already connected communities. This leaves historically marginalized populations underserved. To prevent this, implementation should intentionally prioritize under-resourced areas from the outset.

Lack of Awareness/Inaccessibility

Programs may remain underutilized due to lack of awareness or accessibility barriers. This can be addressed through outreach led by trusted community members and frontline community health workers. The increasing reliance on digital communication strategies risks excluding low-tech populations who lack access to the necessary technology. Ensuring analog alternatives such as door-to-door check-ins and or alerts is critical for equitable access to public health information and resources.

Demonstrating Positive Outcomes

A common challenge in public health initiatives is the deprioritization of mental health interventions in favor of physical health priorities. It is important to demonstrate outcomes of mental health interventions, particularly their role in reducing hospitalizations, emergency response burdens, and chronic illness exacerbation.

Appendix C. Background on Mental Wellness

The Importance of Mental Wellness in Oregon: Voices from Climate Change and Youth Mental Health

The mental wellness of youth in Oregon is deeply affected by climate change, as highlighted by the June 2022 study Climate Change and Youth Mental Health conducted by the Oregon Health Authority (OHA). Young people report experiencing anxiety, despair, frustration, and hopelessness due to the accelerating climate crisis. They perceive inaction from older generations and decision-makers. They also see climate change as inherently linked to systemic racism and oppression. This reinforces a need for solutions that address both crises simultaneously. Many youth feel disempowered by their exclusion from policymaking, while also burdened by the expectation that they must solve a problem they did not create.

The study identifies strategies that nurture hope and resilience among youth. It is essential to create spaces for young people to gather, share their emotions, and process their climate-related distress. Engaging youth in social and political action has been found to increase their sense of agency and reduce feelings of helplessness. Strengthening connections to nature and the physical environment is another critical approach, as many youth find solace and meaning in environmental stewardship and conservation efforts. Key partners, including educators, mental health professionals, and environmental leaders, play a crucial role in supporting youth resilience. To do so effectively, they must:

- Integrate healing-centered approaches
- Share decision-making power with youth
- Increase investment in school- and community-based mental health services.

Providing more opportunities for youth to engage in climate action while expanding access to mental health care can help mitigate the psychological toll of climate change.This will ensure that young people in Oregon feel empowered rather than overwhelmed by the future. (Sifuentes 2024)

Trauma Has No Universally Agreed Definition

This report uses the Substance Abuse and Mental Health Services Administration (US) definition of "trauma". *"Trauma" refers to experiences that cause intense physical and psychological stress reactions. Trauma:*

- *Results from an event, series of events, or set of circumstances*

- *Is experienced by an individual as physically or emotionally harmful or threatening*

- *Has lasting adverse effects on the individual's functioning and physical, social, emotional, or spiritual well-being (Center for Substance Abuse Treatment)*

Appendix C.
Background on Mental Wellness (continued)

The definition of psychological trauma is not limited to diagnostic criteria, however. In fact, some clinicians have moved away from considering trauma-related symptoms as indicators of a mental disorder. Instead they view them as part of the normal human survival instinct. They are "adaptive mental processes involved in the assimilation and integration of new information with intense survival emphasis which exposure to the trauma has provided". (Turnbull 1998)

Trauma has been characterized more broadly as a sudden and forceful event that overwhelms a person's ability to respond to it. This recognizes that a trauma need not involve actual physical harm to oneself. An event can be traumatic if it contradicts one's worldview and overpowers one's ability to cope. (Horowitz 1989)

Trauma and Healing Education

Trauma and Healing Education addresses climate-induced mental health stressors such as heat stress, extreme weather displacement, and air quality crises. These events disproportionately impact frontline communities. They also exacerbate existing mental health disparities and chronic stressors related to structural inequities. (Parsons 2024) These interventions aim to reduce psychological distress, eco-anxiety, and climate grief while equipping communities with coping mechanisms. (Newberry et al 2024)

Multnomah County's Climate and Health team has focused initial efforts on creating basic trauma education materials that address climate hazards. These training sessions with Community Health Workers have:

- Covered basic mental health trauma training and
- Discussed interconnected impacts of systemic racism and climate-induced stress, eco-anxiety and the mental health impacts of the climate catastrophe.

Building on this work, the Division will work to embed trauma-informed practices into all public health and emergency protocols. The next phase of planning will focus on youth engagement in Multnomah County to develop Mental Wellness Literacy curricula that teach coping strategies for recurring climate hazards and educate frontline populations on heat safety through Community Health Workers.

Building Connection, Social Cohesion and Overcoming Isolation

Isolation is a critical issue during emergencies in Multnomah County. During the 2021 Heat Dome of the 72 deaths in Multnomah County 78% were 60 or older; 71% lived alone. (Final Report: Health Impacts from Excessive Heat) The World Health Organization (WHO) emphasizes using simple communication tools for mental health and psychosocial support (MHPSS) during emergencies.

These systems should identify at-risk individuals and connect them with necessary resources.These include cooling shelters during heatwaves or emergency response teams during severe weather.

Appendix C.
Background on Mental Wellness (continued)

The Transformational Resilience Coordinating Network

The Transformational Resilience Coordinating Network (TRCN) aims to:

- Create wide and diverse networks of local residents, organizations, and groups to

- Develop population-level mental health and resilience strategies in response to the poly-crisis of climate change, ecosystem collapse and biodiversity loss.

It applies a public health approach to address community-level climate trauma, strengthen mental wellness, and build capacity for transformational resilience. These networks are part of the Race to Resilience initiative, coordinated by the International Transformational Resilience Coalition (ITRC) and organizations like Trauma Informed Oregon (TIO). (TRCN Handbook 2024)

We are currently establishing a Steering Committee whose goals will be to:

- Identify and recruit a diverse group of partners from across Portland's metro area. This would include representatives from public health, community-based organizations, faith-based groups, educational institutions, businesses, and resident groups.

- Use materials and technical assistance provided by ITRC and TIO to develop a clear mission, vision, and goals for the TRCN.

- Form subcommittees to focus on specific issues, such as climate trauma, public mental health training, and ecosystem resilience strategies.

Phased Development

Phase 1: Apply as a "Perspective TRCN"

- Submit an application to ITRC and TIO for recognition as a Perspective TRCN.

- Participate in their Community of Practice (CoP) to gain resources and best practices for forming and operating the network.

- Facilitate community forums to identify mutual goals and priorities related to mental health and climate resilience. Host initial listening sessions to identify shared concerns about climate and mental health.

Phase 2: Build as an "Emerging TRCN"

- Finalize the steering committee's operational structure, including decision-making processes, roles, and responsibilities. Build partnerships with organizations like ITRC, TIO, and local government agencies.

- Pilot community-level strategies that integrate mental health capacity-building into climate resilience plans.

- Document and evaluate the pilot initiatives to refine approaches.

Phase 3: Implement as a "Commissioned TRCN"

- Scale up successful strategies across the Portland metro area to focus on equitable access and engagement.

- Develop long-term funding mechanisms to sustain initiatives, such as grants and public-private partnerships.

- Create a feedback loop for continuous learning and adaptation, sharing results with the broader Race to Resilience initiative.

- Develop neighborhood-level strategies, such as community mental health workshops or ecosystem restoration efforts tied to mental wellness.

- Increase community mental health training, focusing on trauma-informed care and disaster preparedness.