Appendix B: Engagement Summaries

Overview

From October 2024 to July 2025, Metro engaged over 135 people through 40 engagement touchpoints. **Chapter 3** of the Cooling Corridors Study report identifies all the groups and individuals that were engaged and outlines the number and types of activities.

The engagement activities were designed to gather information and input from technical experts, Metro staff, local and regional partners, and community members on strategies for adapting and building resilience to heat, existing local and regional efforts, and community challenges and priorities, especially for vulnerable populations. Feedback from these activities informed and helped prioritize the recommendations and supporting actions included in **Chapter 6** of the Cooling Corridors Study report.

This appendix compiles all engagement summaries developed for the Cooling Corridors Study. Each summary documents the perspectives, ideas, and priorities shared by technical experts, community members, and local and regional partners throughout the project. Together, these summaries provide a record of how input was gathered and highlight key takeaways, raising the voices that shaped the study's recommendations and supporting actions.

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Expert Panel with Chief Heat and Climate Officers

Cooling Corridors Study: Lessons learned from expert panel with chief heat and climate officers

Metro hosted an online expert panel featuring chief heat and climate officers from around the world to learn about building heat and climate resilience in communities.

Metro is in the process of developing the Cooling Corridors Study that is anticipated to be completed in Fall 2025. The study was designed to assess heat risk in greater Portland and identify strategies to address urban heat island effects and extreme heat across the region.

Metro has looked to other regions doing similar work as examples of what can be done in greater Portland. The project team invited chief heat and climate officers from different levels of government to attend a panel focused on addressing urban heat.

Metro hosted the virtual expert panel on May 5, 2025, from 8 to 10 a.m. (PST). The expert panel was open to Metro Councilors, Metro leadership, and Metro staff.

Malu Wilkinson, deputy director of Metro Planning, Development and Research, opened the discussion. The co-leads of the Metro project team served as moderators for the discussion: Joe Gordon, principal researcher, and André Lightsey-Walker, senior transportation planner.

Panelists

Jane Gilbert, Chief Heat Officer, Miami-Dade County, Florida

Eleni Myrivili, United Nations Global Chief Heat Officer and Senior Advisor at the Atlantic Council's Climate Resilience Center, Athens, Greece

Brian Swett, Chief Climate Officer, City of Boston, Massachusetts

Summary

The conversation covered three main topic areas: strategies for urban heat adaptation, partnerships and collaboration, and challenges to implementation. After the guided discussion, Metro leadership and staff had an opportunity to ask questions to the panelists.

Urban Heat Strategies

To guide discussion, panelists were asked to share their short-term priorities and long-term goals, emphasizing actions that have been impactful and how actions have been funded.

Before acting, panelists first wanted to understand where the most vulnerable live to target interventions through mapping.

In the short-term, the panelists seem focused on preventing heat-related harm through targeted, visible, and operational responses. These actions included raising public awareness, lowering heat advisory thresholds, training frontline workers in heat safety, and deploying quick solutions like misting tents.

Looking long-term, panelists hope to transform urban systems, policies, and infrastructure to sustainably reduce heat risk over time. This can be done by integrating heat resilience into energy efficiency programs and building codes, creating dedicated funding streams for heat resilience, and expanding green infrastructure on streets and buildings.

Partnerships and Collaboration

Panelists were asked about organizational or community-based partnerships they have formed and what lessons they have learned through collaboration.

Working with trusted community partners, such as healthcare workers or the Red Cross, can help community members understand and support heat mitigation or adaptation work, recognize heat-related illnesses, and learn what to do to prepare for extreme heat.

Co-designing projects with local community groups helps guarantee success, and working with universities can expand an agency's capacity to research solutions.

Implementation Challenges

To end the guided discussion, panelists were asked to share what challenges they have faced when planning and implementing cooling strategies and interventions.

The main challenges are designing and sustaining effective, long-term interventions with physical, policy, and funding constraints, and building political, financial, and community support.

Audience Q&A

Balancing Short-Term Emergency Response and Long-Term Heat Mitigation

It is important to prioritize education and outreach early on to generate political and community support for future actions. Likewise, building partnerships with emergency managers and understanding emergency response protocols is important early on. To prioritize funding in the short-term, panelists shared the idea of considering assets like splash pads and parks as emergency response assets or critical infrastructure. Updating Public Works manuals, building codes, or transportation policies to address extreme heat can meet long-term needs.

Effects of Federal Government on Climate Work

Adjusting the language used for adaptation plans, policies, and projects and reframing the benefits of climate actions is important to maintain access to federal funding and desired outcomes. For example, one panelist frames their rationale for climate actions towards economic benefits rather than racial and social equity benefits, framing extreme heat and weather as expected costly events to justify investments.

Community Resilience Hubs

Stigma or mobility issues may prevent community members from going to cooling centers. Bolstering walking and biking infrastructure around centers and including programming can help achieve success. Regional agencies can consider developing frameworks for resilience hubs, providing models for nonprofits, municipalities, and county facilities.

Tree Planting Considerations

Panelists shared some recommendations for tree planting: only plant a certain number of a species on a site to avoid blight, plant a diverse array of climate-resilient species along streets to avoid the pitfalls of monocultures, and plant several levels of vegetation beneath trees.

Chronic Heat Exposure Training

In the panelists' experience, training courses have been well received. Public schools and community centers are good places to teach communities about the dangers of heat and how to prepare.

Lessons Learned from Medellin's Green Corridors

Three design principles guided the city's program: heat (i.e., making sure people can walk more while maintaining thermal comfort), biodiversity (i.e., supporting ecosystems), and joy (i.e., creating joyful spaces for people to be in).

Key takeaways

Based on the conversation with the panelists, Metro learned the following lessons:

- **Extreme heat needs equal prioritization as other climate threats** in both emergency response and policy planning.
- **Engagement with trusted partners**, like healthcare workers and neighborhood groups, is critical for successful outreach, credibility, and adoption of new initiatives.
- **Localized pilot projects can build political and community support** before policies are scaled citywide or regionwide.
- **Co-designing projects with community builds ownership and trust** and ensures culturally appropriate and effective interventions.

Building and Operating Bus Shelters

Advertising at bus shelters can generate revenue to cover the capital costs of transit shelters. Green roofs or solar panels can be implemented on shelters after being tested in pilot projects.

Interested in learning more?

For more information, including a more detailed summary, see Metro's project website: oregonmetro.gov/coolingcorridors.

Cooling Corridors Study: Detailed Summary of Expert Panel with Chief Heat and Climate Officers

May 5, 2025

ACKNOWLEDGEMENTS

*Special thanks to the panelists **Jane Gilbert** (Chief Heat Officer, Miami-Dade County, Florida), **Eleni (Lenio) Myrivili** (UN Global Chief Heat Officer and Senior Advisor at the Atlantic Council's Climate Resilience Center, Athens, Greece), and **Brian Swett** (Chief Climate Officer, City of Boston)!*

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Overview

Meeting Details

The expert panel was held on Monday, May 5, 2025, from 8 to 10 AM (PST) on Zoom.

Participants

Moderator and Presenters

- **Malu Wilkinson**, Deputy Director, Metro Planning, Development and Research
- **Joe Gordon**, Principal Researcher, Metro
- **André Lightsey-Walker**, Senior Transportation Planner, Metro

Panelists

- **Jane Gilbert**, Chief Heat Officer, Miami-Dade County, Florida
- **Eleni (Lenio) Myrivili**, UN Global Chief Heat Officer and Senior Advisor at the Atlantic Council's Climate Resilience Center, Athens, Greece
- **Brian Swett**, Chief Climate Officer, City of Boston

Metro Council Members Present

- **Christine Lewis**, Metro Councilor for District 2

Summary of Discussion

Panelist Discussion

Malu Wilkinson welcomed the group and introduced the panelists. She asked panelists to share their names, titles, and who they represent as well as a brief background on their work.

Panelist Introductions

Jane Gilbert was appointed as Chief Heat Officer for Miami-Dade County by the Mayor for the City of Miami four years ago to address extreme health risks related to heat. She was the first Chief Resilience Officer for the City of Miami, and the first Chief Heat Officer in Miami-Dade County and the world. Miami-Dade County is a large regional government serving 34 municipalities and a population of 2.7 million residents. She shared that prior to her appointment, extreme heat had not been addressed in her region in a significant way. Heat impacts are significantly impacting the community, both financially and their day to day.

Eleni Myrivili currently serves as the Global Chief Heat Officer for United Nations (UN) Habitat. Prior to this role, she was elected as Chief Resilience Officer for the City of Athens while also serving as the Deputy Mayor for Urban Nature, Urban Resilience, and Climate Adaptation for the city. At that time, though not yet on policy makers' minds, people living in Athens, especially the most vulnerable community members, made it clear that extreme heat is hurting them and something for the government to address. She asked to be the Deputy Mayor to connect the ideas of urban nature, urban resilience, and climate adaptation and find solutions to climate issues. In 2022, she developed a memorandum of understanding with UN Habitat to work with UN agencies to raise the issue of extreme heat. She works with UN Habitat to address heat as a long-term reality that needs responsive nature-based planning.

Brian Swett was appointed as Chief Climate Officer by Mayor Michelle Wu for the City of Boston. He assumed the role of Chief Environment, Energy, and Open Space in June 2024 overseeing 5 different city offices. He helped establish the Office of Climate Resilience in September 2024. Brian's prior background was in real estate development and working for the firm ARUP. Boston is part of the second class of the 100 Resilient Cities network, an initiative which enabled cities to hire a Chief Resilience Officer, develop a resilience strategy, access pro bono services from private sector and NGO partners, and share ideas, innovation and knowledge through the global network of officers. Super Storm Sandy was the impetus for climate resilience planning in the city. Boston is anticipating feeling more like Baltimore by midcentury and like Mobile, Alabama by the end of the century. Lots of residential buildings in Boston currently lack air conditioning, making urban heat a priority for the city, after six days in a row reached temperatures above 95 degrees last June. He noted that extreme heat is not often addressed with the same response as storms.

Strategies for Urban Heat Adaptation

Joe Gordon *took over moderation of the discussion. He introduced himself, his role at Metro, and his role on the Cooling Corridors study. Joe asked the following questions to panelists: What are your priorities in the short-term? What are your long-term goals? What are the strategies that have had the most impact? How are these strategies being funded?*

Jane Gilbert shared a number of strategies that Miami-Dade County has implemented over the past four years. Her team wanted to first understand who is most impacted by heat and where people are experiencing the most heat risks. They used hospitalization records by ZIP code to evaluate which areas in the region most people are making emergency department visits or other hospital visits for heat-related illness. They discovered that areas with high concentrations of poverty and high numbers of outdoor workers correlated with high land

surface temperatures. This evaluation was done to help design where to target heat interventions.

Last year, the region had 60 days with a high heat index of 100 degrees or more, prompting the city to designate May 1 – October 31 as the heat season. The team has worked to raise public awareness to the same level as hurricane awareness by placing signage everywhere and creating messaging for bus stops, radio, TV, and social media, intentionally targeting heat vulnerable communities most to help them understand how to access local resources. Additionally, the National Weather Service lowered its heat advisory thresholds for the county.

The county has also developed heat safety training programs for heat personnel, such as outreach staff for unhoused residents, Parks and Nature staff, and health care practitioners. The county has also started to provide incentives and education opportunities for employers, including a small grant program to help small businesses access hydration equipment. The county has built air conditioning units in public housing and tripled the amount of weatherization in homes. The county provides funding to rehab naturally occurring affordable housing. Lastly, the county has doubled the number of trees planted in urban heat island areas and given away 10,000 trees a year.

Her long-term goals are to create sustainable avenues for health services initiatives and long-term financing with utilities. Miami-Dade County plans to enforce landscape and tree protection codes requiring greater canopy on commercial sites or mitigation fees. The Department of Transportation and Department of Public Works plan to update how the county approaches design processes and protocols to better accommodate existing trees and plans for managing trees.

In Athens, Greece, **Eleni Myrivili** shared three main buckets of initiatives the city is focusing on in the short term:

1. ***Raising awareness*** through the dissemination of information to change behavior. As part of this initiative, the city categorized heatwaves, linking types of temperature and the number of deaths to early warning systems and policies. Each category predicts the number of possible deaths.
2. ***Preparedness*** actions for the city to take during heat waves to prevent heat-related deaths. These actions included heat-specific training for nurses and doctors in hospitals, the creation of a hotline, the opening of cooling centers, and mapping vulnerable populations. To take these actions, the city strategically partnered with the Red Cross because of how well trusted the agency is by community members.
3. ***Re-designing*** the urban landscape by greening the city and figuring out how to prepare buildings for extreme heat. The city focused on nature-based solutions and

enhancing or building blue and green infrastructure. Green corridors are one of the most effective actions a city can take, particularly if the corridors are long and robust and link existing green or blue areas, which can significantly lower temperatures.

Eleni shared an example of a preparedness action that India is taking. The county is partnering with the Atlantic Council to collaborate with the insurance sector to provide parametric insurance, a program that releases funding at certain thresholds leading up to major events.

Looking long term, she shared that she is worried that trees are being stressed in urban settings because of extreme heat, drought, and wildfires, and that there is little understanding of how effective urban trees will be in long stretches of heat. Cities and universities should continue to study which trees are most able to withstand dry and hot conditions. She added that it is important to focus on building water resilience. This can be done by creating a better understanding of nature-based solutions and using strategic partnering to focus on building water capacity by recycling water or other means.

In Boston, **Brian Swett** shared that the city's short-term goals are to provide active solutions to allow people to continue to have outdoor events. He provided splash pads and deployable misting tents as examples of these solutions. As part of this work, the city is working closely with emergency response workers to prepare for extreme heat events, including building understanding of the difference between heat stress and heat shock.

In the medium to long-term, Boston is looking at using more heat-resistant building materials, such as reflective roofing or green roofing, and increasing tree canopy coverage. The city has a strong park system but finds street tree planting challenging. Currently, Boston's Parks and Recreation department is responsible for the care of all street trees. The city is considering a dedicated street tree care team that would be responsible for pruning and other maintenance and upkeep needs.

The city is strategically connecting heat resilience efforts to other issues and existing resources. For example, he is tying urban heat solutions to energy efficiency programs and greenhouse gas emission mitigation programs. These types of programs often install heat pumps in buildings to help residents save money, but importantly, heat pumps also provide air conditioning, which can save lives in the event of extreme heat.

Lastly, he emphasized that cities need to change the collective mindset of community members to give heat risk more attention, and make sure the general population, including first responders, understand extreme heat and check on the most vulnerable. He explained that Bostonians know how to prepare for a major snowstorm, but there is less understanding of the ways to prepare for extreme heat events.

Partnerships and Collaboration

André Lightsey-Walker *took over moderation of the discussion. To stress the importance of partnerships, he gave background on Metro, sharing that the agency serves 24 cities, three counties, and countless community-based organizations. He asked panelists: What types of organizational or community-based partnerships has your agency developed to address extreme heat, and what lessons can be learned from these?*

Like Metro, **Jane Gilbert** said that collective action is integral to the work Miami-Dade County does. The county develops plans with collective action in mind and several partners are leading some of the actions. She shared several examples. A nonprofit has assumed responsibility for heat safety training and expanded the training to include extreme weather training for disasters like floods and hurricanes. Another organization in the local healthcare system started continuing education training related to heat illnesses and reached out directly to health care clinics. Houseless outreach team providers plan to expand the network of cooling sites in the county. The County worked with a local nonprofit to create a program to educate low-income homeowners about energy efficient and low-cost cooling solutions at home. The County has also created a tree ambassador program that oversees tree planting and organizes outreach events at schools and faith-based organizations with tree planting potential (i.e., low canopy coverage). Miami-Dade County also depends on university partnerships and citizen science. The County's partnerships with healthcare workers have been considered the most trusted. The County has included research on brochures and posters for waiting rooms in healthcare clinics, which have been effective at educating patients at these clinics about the physical effects of heat.

Brian Swett shared the importance of building trust with the community, specifically those in the most heat impacted communities, through creating formal partnerships with local environmental groups to engage the community. For example, he highlighted leveraging Boston's partnerships with local environmental groups and funding them to engage and encourage private developers and property owners to plant trees on new commercial and residential development and existing private property. The city has also been leaning on medical and educational institutions to explore the most effective solutions. Brian also emphasized their region's desire to expand upon their green infrastructure workforce, particularly creating a climate resilience jobs program called Power Corps. He included that local unions should be involved in the planning and implementation of these investments in a green workforce. Lastly, Brian shared through strong partnerships with architectural firms, Boston was able to pilot their bus station retrofit program. Brian recommended piloting projects as a way to experiment with innovative strategies, their scalability and effectiveness, all while managing financial risk.

Eleni Myrivili emphasized the importance of partnerships with community groups and co-designing projects with these groups as early on in projects as possible. She has found that giving ownership to community groups helps guarantee success. When building early warning systems or other outreach, it is important for public agencies to meet with different communities to understand their daily lives, who they regularly communicate with, and how they receive information. Communication channels must be trusted channels. In Athens, she collaborated with the Red Cross because the organization is an extremely trusted partner in the city. Other trust partners may be other nongovernmental organizations and care providers.

Building on the last question, ***André Lightsey-Walker*** *asked the panelists: Were there any partnerships that emerged that you weren't expecting?*

Jane Gilbert answered that partnerships with local universities are crucial in deepening their understanding of extreme heat effects in their region. Through those partnerships, researchers were able to help deploy temperature sensors throughout the county to collect shade & date information. This study produced a key finding that bus stop shelters do not provide the same level of cooling as tree canopy. Maintaining strong relationships with universities allows for similar research collaboration in the future. Jane shared about the healthcare community (e.g., doctors, nurses, and other professionals) being another unexpected partnership that emerged over time. She mentioned the ability to spread educational information to the community through placing brochures and handouts in medical office waiting rooms as a key benefit from these partnerships.

Brian Swett reiterated the great benefit of forming strong university partnerships. Specifically, he mentioned the ability for universities to acquire their own funding sources to further student urban heat islands and temperature sensing. In collaboration with the universities, Boston provided access to street poles to place sensors for their studies which looked at promoting neighborhood-scale solutions where people congregate the most. Brian stressed that heat is about what people experience, not only the temperature the weather app says.

Eleni Myrivili highlighted partnerships with young people. She shared that in Rotterdam, Netherlands once a year the city government invites young people interested in programming, design, and/or digital tools to participate in a three-day design sprint. During these events, the city opens their data to allow for the youth to create new tools and products.

Challenges

Joe Gordon *took over moderation of the discussion. He asked the panelists: What barriers have you faced planning and implementing heat mitigation or adaptation strategies? How did you overcome them?*

Jane Gilbert shared that Miami-Dade County has found it difficult to site trees without conflicting with infrastructure and have had issues planting trees that have died within five years. Their challenge is to make sure that they invest the true cost to plant trees upfront and ensure they thrive. This requires foresight and anticipating design needs as early in the process as possible, like redesigning the right-of-way and easements and including landscape architects and arborists when designing programs. Investing in tree care upfront pays off in the long run because the trees are more likely to survive and not need to be replanted. In addition to trees, she discussed building codes. Building codes have minimum heat standards but no cooling standards. The county is working with International Code Standards to implement cooling standards.

Brian Swett cited the following as challenges for Boston: enforcing heat protection ordinances for workers, protecting existing canopy coverage when updating streets, and encouraging residents to plant trees despite reluctance to care for them long term. He also recognized that addressing heat requires disaggregated solutions needing significant investments, which is made more difficult since heatwaves are less obvious health threats than other disasters, making it more difficult to fundraise or garner political support. To overcome some of these challenges, Boston is incorporating green infrastructure into design standards and building codes. However, codes focus more on preventing short-term issues and not long-term issues. He recognized that zoning is a good way to address long-term thinking and build political momentum.

Eleni Myrivili reflected on how agencies should measure how much heat reduction results from cooling strategies and whether this should be standardized. For example, some agencies measure air temperature while others measure land temperature. She also highlighted the challenge of raising capital without good ways of assessing the effectiveness of strategies. To overcome challenges, she has partnered with universities to build institutional capacity. She finds that landscape architects can be helpful because they understand thermal dynamics, however, she recognizes that not all cities have access to people with that background or understanding. Another challenge is convincing people of the importance of heat mitigation or heat adaptation projects and building collective support for these types of projects. Agencies need to reframe climate adaptation narratives to demonstrate the importance of this work to their health and finances.

Joe Gordon asked the following: *What do you think are the key challenges in ensuring that heat-related interventions are equitably distributed, particularly in underserved or vulnerable communities? How did you address these challenges?*

In Boston, **Brian Swett** shared that using objective data often results in the same outcomes that focusing on climate justice neighborhoods may have. For example, Boston's Urban Forestry Plan has a number of criteria for targeting neighborhoods that need it the most that result in climate justice neighborhoods being targeted.

Eleni Myrivili emphasized that certain communities may not want heat-solutions because of a fear of gentrification, so it is important to deal with these issues in advance. Agencies must address peoples' fears and find solutions before they grow out of control. An example of a non-heat related solution is enforcing rent stabilization to keep people in their homes and prevent them from being priced out.

Jane Gilbert discussed criteria for their interventions. Miami-Dade County is focusing 90% of the county's tree planting budget on areas with less than 20% tree canopy coverage and greater than 20% poverty rates. The county is avoiding putting the burden of maintenance on vulnerable community members by involving community members from the beginning, asking where trees are wanted and identifying who will be responsible for maintenance of trees planted by the county.

Facilitated Q&A with Panelists, Metro Leadership, and Metro Staff

Malu Wilkinson took over moderation of the discussion and fielded questions from Metro leadership and staff. She asked Councilor Lewis and Chief Operating Officer Marissa Madrigal if they had any questions. Councilor Lewis thanked everyone for joining and highlighted how inspiring the work is.

Balancing Short-Term Emergency Response and Long-Term Heat Mitigation

Marissa Madrigal *asked how the panelists considered short-term emergency response and preparedness versus long-term heat mitigation and whether each place had a prioritization framework. Do you have any advice as we think about our framework moving forward and define what is urgent and what is longer-term work?*

Brian Swett highlighted two approaches. The first is to engage with emergency managers. The City of Boston turned planning for extreme heat events into a tabletop exercise to understand how emergency responders would act during extreme heat events. The second is to reconsider existing assets, such as splash pads and pools, as emergency response assets and resource them as critical rather than superfluous. Boston opened 90% of the city's splashpads by Memorial Day.

Eleni Myrivili recognized a recent effort in New York where different organizations started to claim parks as "resilient infrastructure" for flooding and heat instead of green spaces. This action helps the city prioritize funding in the short term. When considering how to approach extreme heat in the long term, it is imperative to consider how different systems influence each other. For example, rising temperatures may affect water access, which may force places to prepare for possible water scarcity issues. To raise awareness, different types of educational materials and information are needed to persuade people in the long-term versus the short-term. Different budgets are needed for the different temporal scales.

Jane Gilbert shared that it is important to prioritize education and outreach to build political buy-in for other actions. For example, table-top exercises were very effective in getting emergency managers and other partners on board. The county's Public Works manual needs to be updated to set up capital improvement projects to address extreme heat and connect the dots between short-term response and long-term needs.

Effects of Federal Government on Climate Work

Hau Hagedorn *asked in the chat: Probably more relevant for Miami and Boston, but how are you approaching your work now that climate, equity and justice are under scrutiny at the federal level? Are you impacted by the federal landscape?*

In Miami-Dade County, **Jane Gilbert** remarked that the federal government is no longer providing maps for climate justice communities, but fortunately the county documented these maps internally. Her team is adjusting language as needed to maintain their desired outcomes as well as access to federal funding.

Similarly, **Brian Swett** said that the City of Boston is not changing its climate responsive actions but changing the language behind how the city frames the benefits of their actions. They gear their rationale towards economic benefits rather than racial and social equity benefits. Brian explained that even when taking the economic rationale approach, similar conclusions are drawn regarding which neighborhoods to invest in. Also, framing extreme heat and weather as expected costly event(s), there is further justification for Boston to create job opportunities and green infrastructure investments that will save them money in the long run.

Community Resilience Hubs

Yohannes Wolday *asked in the chat: We are seeing growing interest from CBOs in our region in establishing community resilience hubs—spaces that serve as cooling and heating centers, while also offering critical resources and information to residents. Have similar initiatives been developed in your region? If so, could you share any insights on successes, challenges, or lessons learned from those efforts.*

Programming occurs year-round in Miami-Dade County, according to **Jane Gilbert**, and capital improvements have been made over time. The county is in the process of developing frameworks for resilience hubs, providing models for nonprofits, municipalities, and county facilities. Libraries have been successful resilience hubs because there are activities for people to do.

Brian Swett suggested that it is easy to implement cooling centers yet difficult to mobilize and encourage people to use them. Programs are necessary because community members do not want to sit in an empty room with nothing to do. The entire user experience is important to consider.

Eleni Myrivili agreed that there is a stigma around cooling centers. Cities need to make cooling centers appealing while considering different mobility issues that may prevent people from accessing these centers. For example, the cooling center may be surrounded by poor or missing pedestrian or bicycle infrastructure or no shade, making it difficult for people to travel to the center safely.

Native Tree Species

Lori Hennings *asked in the chat: One major challenge we are recognizing, which I have heard a couple of our guest speakers mention, is the likelihood of persistence of currently "native" tree species on the landscape. How are you looking at what species will work in your cities in the future?*

Jane Gilbert stated that university partnerships have been very helpful with the assessment of temperature changes and groundwater levels in Miami-Dade County. The county is starting to recommend and treat tree species that are native to the Caribbean since the area's native species, such as live oak, are becoming increasingly vulnerable. Because of this, the county recommends that people only plant a certain number of a species on a site to avoid blight.

Similarly in Boston, **Brian Swett** said the city is researching tree species that are more resilient to dynamic climates and planting a diverse array of climate-resilience species along streets to avoid the pitfalls of monocultures.

Eleni Myrivili suggested the importance of planting several levels of vegetation instead of relying solely on trees.

Chronic Heat Exposure Training

Melissa Ashbaugh asked: *Chronic heat exposure often gets missed in data and discussion around the risks of extreme heat, so I am excited that Miami-Dade is working to train on that topic. After doing that training, were there any interesting findings? Did it change any prioritization of resilience strategies?*

Jane Gilbert shared that Miami-Dade County's training courses were popular and well received, resulting in people wanting an expansion of the training. The county conducted an excess heat mortality study of worker's compensation claims for the county. It found that extreme heat-related claims were very low. However, it is notable that overall claims increase by 30% during May through September, the county's hottest months, implying that heat illness is likely underreported.

Brian Swett emphasized that measuring chronic stress is important. He added that public schools and community centers are good places to teach the community about the dangers of heat.

Lessons Learned from Medellin's Green Corridors

Marissa Madrigal *asked Eleni Myrivili: Can you tell us about your trip to Medellin and any observations you may have had?*

Eleni Myrivili shared that Medellin originally created 30 corridors, but once the program gained international recognition, the city created a more robust program in response. Naturally, Medellin has lots of water and fertile soil, which enhances its ability to create green spaces. On certain corridors, the city limited the number of car lanes and replaced them with greenspace, and trees and other greenery were enhanced on either side of existing waterways. Three design principles guided the city's program: heat (i.e., making sure people can walk more while maintaining thermal comfort), biodiversity (i.e., supporting ecosystems), and joy (i.e., creating joyful spaces for people to move in). Now, Medellin has moved from green corridors to "re-naturing" the city and creating pockets of biodiversity that connect to the green corridors.

Building and Operating Bus Shelters

Tom Kloster *shared the following in the chat: Brian mentioned "shelter contractors" earlier and I'm interested to hear from all three panelists how they have managed bus shelters. For context, our primary transit provider has gradually removed hundreds of shelters over the past few decades due to the costs of maintaining them — an expense that directly competes with operating buses and trains and therefore becomes a lower priority. Are there better examples of how to build and operate shelters?*

Brian Swett said that the City of Boston shares capital costs with the transit shelter provider while advertising at the bus shelters generates revenue for the city. The city first tested the ability of bus shelters with green roofs to hold water before widespread implementation. He stressed that cities need to prioritize transit and make transit options more comfortable to use because they are a necessity. If cities do not invest in bus shelters, they cannot expect community members to use transit.

Jane Gilbert added that Miami-Dade County was able to fund shelters at all bus stops because of advertising revenue that the shelters generate. Solar panels are needed on top of shelters to light them, necessitating a need to site trees at a distance so that shade does not affect the panels' ability to capture solar energy.

Closing

Malu Wilkinson concluded the conversation, emphasizing the need for a systems approach in our region. She said that the project team will share a summary and recording with everyone after the meeting.

Community Conversation with Community-Based Organizations

Cooling Corridors Study: Conversation with community organizations on cooling communities

Metro hosted a conversation with representatives from local community-based organizations about their climate and heat resilience work, implementation challenges, and priorities, and about how Metro and public agencies can support their work.

Metro is in the process of developing the Cooling Corridors Study that is anticipated to be completed in Fall 2025. The study was designed to assess heat risk in greater Portland and identify strategies to address urban heat island effects and extreme heat across the region.

This study builds on work that is already being done in the region to build climate and heat resilience in vulnerable communities. The project team invited staff members from local nonprofits and community-based organizations doing this work. Metro hosted the conversation on May 13, 2025, from 11 a.m. to 1 p.m.

From Metro, Jai Daniels, associate climate and transportation planner, facilitated the discussion with support from André Lightsey-Walker, senior transportation planner, Isaiah Jackman, graduate research assistant, and Shannon Stock, program assistant.

Community Representatives

Amanda Gallegos, acting executive director, *Columbia Slough Watershed Council*

Lena Karam, climate resilience coordinator, *Community Energy Project*

Shonene Scott, senior conservation analyst, *Connecting Canopies*

Xitlali Torres, air quality and climate program coordinator, *Verde*

Zoe Walker Aparicio, community projects and stewardship manager, *Depave*

Summary

The conversation focused on four key areas: current community-led efforts to build climate and heat resilience, challenges to implementing this work, ways public agencies can offer meaningful support, and the community priorities identified by organizations.

Community-led Efforts

Participants were asked to share what actions their organizations are taking to build climate resilience and prepare communities, especially those most vulnerable, for extreme heat events. They shared a range of actions:

- **Community Energy Project (CEP)** focuses on climate resilience through education, advocacy, and in-home repairs. CEP staff provide seasonal workshops, free material kits, and home retrofits, prioritizing low-income households.
- **Verde** uses a three-team model to advance green infrastructure, community education, and climate policy advocacy, with a strong emphasis on community leadership, anti-displacement, and land equity in neighborhoods like Cully.
- **Connecting Canopies** is a collaboration led by the Blueprint Foundation, The Intertwine Alliance, and The Nature Conservancy that is working to bring together neighborhoods, government, partners, and businesses to create inclusive and sustainable action plans for urban tree planting and stewardship to combat the regional decline in urban tree canopy and inequitable tree access.
- **Depave** transforms paved areas into green spaces, including play areas, while also engaging in policy and advocacy. Projects often rely on volunteer support.

- **Columbia Slough Watershed Council (CSWC)** leads place-based environmental stewardship, education, and community events, focusing on connecting the community, including youth and families, to nature and incorporating equity and environmental justice into their programming.

Implementation Challenges

Participants were asked about challenges they face in their work. They identified the following challenges.

- **Limited and inflexible funding:** Short-term funding makes it hard to cover long-term needs, like maintenance. Restrictions on existing grants make it difficult to serve communities outside of the city of Portland.
- **Barriers to regional solutions**: Communities most impacted by climate change are increasingly located outside city boundaries where fewer resources and programs exist. Existing funding structures do not adequately support regional approaches.
- **Staffing and capacity strains:** Small teams are stretched thin running high-demand programs. Limited resources make it difficult to retain staff and keep projects moving forward.

Opportunities for Support

Participants were asked how Metro and other public agencies can support their work, including tools, data, and resources they'd find helpful. They suggested Metro and other agencies do the following:

- **Support interagency and community partnerships** through ongoing convening and a shared "hub" or database of local organizations, key contacts, tools, trainings, and other information and resources.
- **Improve access to data, tools, and language support** so that all community members, regardless of expertise or language, can benefit from resources.
- **Help communities access localized climate data** (e.g., neighborhood-scale temperature and air quality measurements) to inform place-based solutions.
- **Support equitable, scalable, and flexible funding models** that are inclusive of communities outside the city of Portland, prioritize long-term impact over quick wins, and prevent displacement by linking greening work with equitable development strategies.

Community Priorities

Participants were asked to share the top climate or extreme heat priorities of the communities they serve. The following issues are front of mind.

- **Emergency preparedness and heat safety:** Communities want more educational resources about disaster readiness, wildfire safety, and preparing for extreme heat events. There is strong interest in workshops, preparedness kits, and heat safety trainings.
- **Access to cool and safe third spaces:** Access to shaded, family-friendly places to gather, play, and stay cool, especially without needing a car, is a priority identified by community members.

Key takeaways

Based on the conversation with the community representatives, Metro learned the following:

- **Community members are concerned about heatwaves**, access to water and cool spaces, wildfire safety, and disaster preparedness.
- **Organizations are doing great work** to build climate resilience in the community but need support.
- **Education, advocacy, and capacity building**, including building green infrastructure or weatherizing homes, are key focuses.
- **Limited staff capacity and access to limited and restrictive funding** are significant challenges.
- **Organizations want more opportunities to share knowledge and resources to build organizational capacity.** Metro can support coordination efforts by developing a "hub" or database.

- **Water access and water storage:** Communities are concerned about having access to clean water to drink during heatwaves.

Interested in learning more?

For more information, like a detailed summary, see Metro's project website: oregonmetro.gov/coolingcorridors.

Cooling Corridors Study: Detailed Summary of Conversation with Community-Based Organizations on Cooling Communities and Heat Resilience Work

May 13, 2025

ACKNOWLEDGEMENTS

*Special thanks to **Amanda Gallegos** (acting executive director) from Columbia Slough Watershed Council, **Lena Karam** (climate resilience coordinator) from Community Energy Project, **Shonene Scott** (senior conservation analyst) from the Connecting Canopies Coalition, **Xitlali Torres** (air quality and climate program coordinator) from Verde, and **Zoe Walker Aparicio** (community projects and stewardship manager) from Depave!*

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Overview

Meeting Details

The conversation was held on Tuesday, May 13, 2025, from 11 a.m. to 1 p.m. at Metro Regional Center in Room 601.

Participants

Cooling Corridors Study Project Team

- **Jai Daniels,** associate climate planner, Metro
- **André Lightsey-Walker**, co-lead, senior transportation planner, Metro
- **Isaiah Jackman**, graduate research assistant, Portland State University
- **Shannon Stock**, program assistant, Metro

Community-Based Organization Representatives

- **Amanda Gallegos**, acting executive director, Columbia Slough Watershed Council
- **Lena Karam**, climate resilience coordinator, Community Energy Project
- **Shonene Scott**, senior conservation analyst, Connecting Canopies and The Nature Conservancy
- **Xitlali Torres**, air quality and climate program coordinator, Verde
- **Zoe Walker Aparicio**, community projects and stewardship manager, Depave

Summary of Discussion

Jai Daniels facilitated the discussion.

Actions

Jai opened the discussion by asking: *What actions are your organizations currently taking to improve climate resilience or help your community prepare for extreme heat? What future efforts or initiatives are you planning to build on this work?*

Lena Karam, representing **Community Energy Project (CEP)**, shared about CEP's mission and projects. The focus and mission of CEP is to help with climate resiliency, focusing on community safety, health, and energy security. CEP has three teams that each have a specific focus: education, advocacy, and in-home repair.

The education team hosts workshops and partners with culturally specific organizations and low-income residents. During the summer and winter, the team hosts do-it-yourself workshops focused on weatherizing homes and making them more energy efficient, which helps with energy costs. The team focuses seasonally on topics, like how to reduce waste heat in homes, how to conserve water, and how to improve airflow. Community members receive a free material kit that differs by season. Examples of items that may be included are a box fan or window insulation kit, LED lightbulbs, foam for sealing windows and doors, thermometers, and a water conservation kit from the Portland Water Bureau. All these materials help community members have agency over their homes.

The advocacy team works closely with the State legislature to improve conditions for vulnerable communities. One example is advocating for lower energy costs so that low-income individuals and families are less cost burdened. The team also coordinates with energy suppliers to keep power on during extreme weather even if someone is behind on their bill.

The in-home repair team works directly with homeowners to do full home retrofits. Through the Portland Clean Energy Fund's (PCEF) Energy Friendly Homes Program, the team is able to test the energy score of homes and provide a comprehensive home retrofit that includes replacing old water heating and heating systems with more energy efficient models and full weatherization. The other team is funded by Oregon Health Authority's Healthy Homes grant program, which covers weather sealing, roof repair, fixing leaks, and a water heat pump replacement program. All services are income based and free.

Xitlali Torres, representing **Verde**, recognized similarities between CEP's projects and Verde's projects before she shared about the work that Verde does. Similar to CEP, Verde has three teams that each have a specific focus: VERDE Builds, Outreach, and Verde Advocacy.

The VERDE Builds team helps with many similar matters to CEP's in-home repair team. The team also does landscape work, such as building bioswales in neighborhoods and planting trees. This team focuses on hiring community members from diverse backgrounds.

The Outreach team hosts educational workshops and tabling events to ensure the community knows what resources are available. The team also works with youth summer camps to educate younger generations and encourage them to spend more time outside. The outreach team brings community members, primarily those who speak Spanish, to join a two-year cohort and participate in workshops where they learn about how to advocate for their communities.

The Verde Advocacy team combines organizing, leadership development, and education to build community capacity to craft policies that reflect the needs of frontline communities. The team also builds coalitions of frontline communities. For example, Verde leads the Living

Cully coalition, a Cully neighborhood partnership with Habitat for Humanity, Hacienda Community Development Corporation (CDC), and Native American Youth and Family Center (NAYA), focused on land equity, economic development, anti-displacement, and equitable development work.

Another program she mentioned is out of the Oregon Water Futures Collaborative in Gresham working with Rockwood community. The group recognized that the Gresham Climate Action Plan did not include actions related specifically to water. Verde has been holding conversations with community leaders on policy recommendations and advocating for relationship building with water companies.

Shonene Scott, representing the **Connecting Canopies Coalition** and **The Nature Conservancy (TNC)**, expanded on the work that both groups do.

Nationally, TNC's approach to building climate and heat resilience in urban areas has been through urban tree canopy and urban heat analysis. This is being implemented by the organization in different ways in different cities across the country. TNC hopes to integrate community support and contributions early in their projects.

TNC partnered with Portland State University's Institute for Sustainable Solutions and Department of Geography to conduct a baseline assessment of inequities in urban canopy cover by race and income across the Portland–Vancouver metropolitan area of Oregon and Washington. This assessment analyzed the gain and loss of canopy coverage in different areas over time. The method they used was intended to be replicable and to contribute to regional consistency. The group is now building the assessment into a web map. In tandem, the Urban Greenspaces Institute conducted a regionwide policy and program scan that is available publicly. This work creates a static scoring system to evaluate and categorize policies and programs based on their effectiveness in supporting or promoting tree canopy.

Another member of the Connecting Canopies Coalitions is the Blueprint Foundation. The Blueprint Foundation built a pre-apprenticeship workforce development program that has now been broadened to include more skills building. The program is focused on Black youth and works to provide people with the ability to set their own career path and have a living wage.

The Connecting Canopies Coalition's partners are supported by a U.S. Forest Service grant.

Going forward, coalition will work to identify community partners and neighborhoods to do tree planting or implement tree maintenance programs that meet multiple needs.

Zoe Walker Aparicio, representing **Depave**, summarized the work that Depave does in the region, highlighting projects that she is advocating for.

She shared that Depave removes asphalt and concrete and replaces it with natural spaces, including permeable greenspaces and play spaces, and as many trees as possible. Most of the organization's work is very hands-on, but the advocacy work is also significant. She is pushing for the organization to contribute to resiliency hubs by working with specific communities that may already have space, like a school or church, and turning these spaces into resiliency hubs for heat events. In Northeast Portland's Cully neighborhood. Depave worked in collaboration with Morning Star Baptist Church and other partners, including Metro, to replace a large asphalt parking lot with a community green space that included garden spaces, a picnic area, and a playground. For that project, community members volunteered to help create the new green space, building connection and ownership in the project.

Shonene Scott asked: *How are Depave projects implemented? Is there help from community members for funding?*

Zoe Walker Aparicio shared that Depave does a broad spectrum of work. For some projects, Depave is responsible for securing all funding and overseeing execution from start to finish. For others, the host organization can secure their own funding and grants rather than relying on Depave to secure those funds, however, the site host does not bear any costs when working with Depave. All projects utilize Depave's robust group of volunteers.

Amanda Gallegos, representing the **Columbia Slough Watershed Council (CSWC)**, highlighted the council's three main programs: stewardship, education, and events. She emphasized that the council is a very place-based organization. She said that most of the council's focus is on the Columbia Slough, a narrow 19-mile long waterway, but much of their work also spans the 60-mile watershed.

The stewardship program has a tree planting program, partnering with Portland Parks & Recreation to host community events and help community members have a sense of ownership, which helps activate their investment in natural spaces. She highlighted a couple of existing partnerships with other representatives at the discussion. The council has worked with Verde to build rain gardens and the Blueprint Foundation (a member of the Connecting Canopies coalition) on workforce development. Currently, the council is working on a large project to cool water temperatures along the Columbia Slough near Portland's Parkrose neighborhood.

The council's education program delivers in-class lessons on environmental topics to students from Kindergarten through 12th grade. The program serves Title I schools, prioritizing schools that have a lack of resources and funding. These lessons are often followed by a field trip for students to discover green spaces that may be less accessible in their neighborhoods.

Lastly, the events program is designed to connect people to the land around them. The council works with many organizations to engage community members, helping people gain access, experience, and skills in natural spaces. One of their events considers tree canopy equity. The team leads a short walk down Northeast Alberta Street through three different historical zoning that each have clearly different degrees of tree canopy coverage. The walk has sparked many conversations around the racist history of Portland and how historically racist planning impacts shade equity in the watershed. The council is looking for ways to weave those types of conversations and education into the existing work, community events, and partnerships.

Challenges

Building off of the responses to the last question, **Jai** asked participants: *What challenges are you facing in your heat resilience or climate work?*

Shonene Scott shared that she has observed that sufficient staffing capacity can be challenging for the Connecting Canopies Coalition's partners. There aren't enough resources to keep enough staff and provide continuity. She thinks that having more stable funding streams would allow for longer timelines for projects and greater impact.

Zoe Walker Aparicio agreed, saying that funding and losing continuity are also challenges for Depave. Funding distribution from the federal Inflation Reduction Act of 2022 is being stalled, which has led to furloughed positions and lost momentum in projects. Some Depave projects have very dedicated funding streams and can occasionally be supplemented with other funds, but that is not always the case. Another challenge is that costs of continued maintenance is overlooked, especially when considering the health of trees. She mentioned that the City of Portland's Urban Forestry's Learning Landscapes program empowers students of all ages to plant trees at their school, supported by a professional urban forestry team. She recognized, though, that putting the burden of maintenance on the site host can be a deterrent for someone to seek out a nice greenspace that requires significant water and care.

Amanda Gallegos shared similar sentiments. The Columbia Slough Watershed Council has minimal access to federal funding and staff capacity is currently strained. The council is composed of a small team of six responsible for several very robust programs, which has made it difficult to keep up with demand. Partnerships with other organizations has been helpful to alleviate staff capacity issues.

Lena Karam shared that challenges CEP face are the limiting factor of certain grants and the lack of holistic funding outside of the city of Portland. For instance, CEP's in-home repair program is largely funded by the Portland Clean Energy Fund's (PCEF) Energy Friendly Homes

Program, but CEP is limited to only helping people that have a Portland address. If there are people in need living outside of Portland's city boundary, even if they live in Multnomah county, PCEF funding is not a viable option to weatherize their homes. Outside of the city of Portland, CEP can use the Oregon Health Authority's Healthy Homes grant program, but the offerings for that program are limited compared to PCEF's program, which prevents CEP from conducting full energy scores and full home retrofits. Through the Healthy Homes grant program, CEP may only be able to fix a leak or air seal a window, not fully encapsulating someone's needs. She highlighted that most people living on the frontlines of climate change, and facing the greatest energy burdens, are constantly being pushed outside of Portland where grant funding is the most limited.

Zoe Walker Aparicio agreed and reiterated what everyone shared. She added that there is a significant need for education, especially around relationship building in the community.

Metro and Public Agency Support

Jai Daniels asked the following questions: *How can Metro best support the work you are currently doing? What does a dream partnership between government agencies and your organizations look like? Are there tools, data, or resources you wish you had to better support your work?*

Recognizing that some of the strategies for building heat resilience can lead to gentrification, **Shonene Scott** shared that Metro could identify and create a menu of actions, mechanisms, and services that public agencies, business associations, and community-based organizations can use to prevent gentrification and displacement. She would also find it helpful to have access to better evidence of the direct linkages between urban greening and other climate mitigation actions and decreases in temperature. Most of what she has seen is related to proximity to large urban parks, and not at the scale of individuals planting trees in their yard. She added that looking at air quality at a localized scale to assess whether any actions have improved air quality would be equally as helpful.

In response, **Jai Daniels** shared that the Cooling Corridors Study project team learned from a recent expert panel that partnerships with universities allowed other agencies to study heat and other metrics at a more localized scale. Metro can consider partnering with local universities in the region to add capacity to this type of research. **Zoe Walker Aparicio** added that Depave partnered with NASA for an urban heat study that quantified the difference in surface temperatures at specific Depave sites before and after de-paving and replacing with greenspace. A similar study could be conducted and expanded.

Xitlali Torres was reminded of Oregon Department of Environmental Quality's Community Air Action Planning pilot program, a program designed to begin improving local air quality in

historically overburdened areas through a collaborative process of community-led action. There is a project underway in Rockwood in Gresham, one of the most densely populated and diverse neighborhoods in Gresham, and one of the poorest in the state. Metro could encourage public agencies at different levels of government to keep doing this type of work and lead the way forward.

Lena Karam shared an idea that Metro could pilot and coordinate. She underlined how helpful this conversation has been for networking and highlighted that Metro can continue to convene these types of conversations to foster knowledge and resource sharing and support interorganizational partnerships. She mentioned that this could be done through a partnership hub where Metro can facilitate community connection and support and spend more time working together to build more resilient communities. **Jai Daniels** added that Metro or other public agencies can consider creating and maintaining a shared database with information about different organizations, including projects, funding sources, outreach and educational materials (such as heat safety trainings and home weatherization guides), and contact information, to meet this need. Metro can also consider creating and sharing a standardized heat safety training with other organizations to address limited capacity issues.

Amanda Gallegos pointed out that though there are a lot of existing resources in the community, language barriers can make it difficult for some community members to access these resources. She underlined the importance of developing a community hub or shared resource by highlighting that since the Columbia Slough Watershed Council does not have in-house language support services, it would be helpful to connect to other organizations who might specialize in supporting community members of different languages. Several attendees agreed that access to language interpretation and translated materials is a critical need.

Jai Daniels asked: *What do you need from an agency like Metro to create resources to use for education or outreach? It sounds like you can create these programs internally, but is there a way that agencies can support?*

Lena Karam said that it would be helpful if Metro or another agency created standardized guides or resources. Anytime she is developing a workshop, she is doing lots of online research. It would be helpful if Metro had a tool that helps users find local resources to learn what is happening locally and incorporate that information into workshops. At CEP, they are always looking for staff training opportunities to be better educators and a resource for the community.

André Lightsey-Walker added the following question: *Do organizations prefer in-person or digital gatherings?*

Amanda Gallegos said the Columbia Slough Watershed Council has held hybrid meetings even though most of the council's work is done in-person. She has seen recent pushback

against virtual meetings but recognizes that accessibility is always important and not everyone can meet in person. She values the importance of in-person connection but finds that a hybrid environment continues to be the best of both worlds. Other participants agreed.

Shonene Scott asked: *How does Metro seek out and form partnerships?*

André Lightsey-Walker and the rest of the Cooling Corridors Study project team shared that the study was identified as a need by Metro's chief operating officer and supported the project team building the project from the ground up. The project team believes that this work cannot be done without community, so it is important to build a coalition with other agencies and community groups and imperative to understand what communities actually need to feel supported and more resilient. **Jai Daniels** emphasized that Metro's recommendations will be for Metro and other public agencies. The report will not be adopted by Metro Council, but the project team has convened a regional work group made up of different jurisdictional partners that can carry this work forward in their respective jurisdictions. The group was formed because partners expressed interest in doing climate and heat resilience work, so the momentum that is building is promising.

Shonene Scott asked: *When you think about work on the ground, are you focused on public right of way? Are you limited to public lands? Do you consider commercial, private and industrial properties?*

Jai Daniels shared that there would be a focus on public right-of-way, which is land like streets or sidewalks that is reserved for public use. **André Lightsey-Walker** added that something that is unique about Metro is that the agency has no ownership over any streets, curbs, or sidewalks in the region, which means that Metro must partner with jurisdictional partners and act as a regional convener. **Jai** added that public agencies can influence private development through zoning and building codes, permit processes, and financial incentive programs. **André** briefly mentioned that a regional version of the Portland Clean Energy Fund that can extend to projects outside of Portland's city boundary and generate funds to do similar projects on a regionwide scale would be ideal. These conversations can build support for these types of innovations.

The Cooling Corridors Study project team emphasized that interagency relationship building and grassroots efforts can form trust and community support for these actions. All attendees encouraged the project team and others at Metro to come to community events with the intention to build relationships, ask questions, and simply be present.

Jai Daniels asked: *Who else should be part of this conversation that isn't currently at the table?*

Shonene Scott highlighted that the representatives at the day's meeting are mostly from Portland, which is geographically similar to many other meetings she attends. She recognized that other parts of the region were not represented at the table. She hopes to expand the network that the Connecting Canopies Coalition engages with to other parts of the region. She shared that the Tree Keepers of Washington County are advocating for the preservation of trees in urban unincorporated Washington County. The group also suggested 350 PDX and Black Future Farm.

Priorities

To close the conversation, **Jai Daniels** asked: *What climate or extreme heat priorities are top of mind for the communities you serve?*

Xitlali Torres shared that many community members are concerned with water access, water storage, and disaster preparedness in general. It is important to families and children to have places for kids to play outside that are cool in temperature. Other priorities are access to third spaces and alternative transportation to those spaces aside from a car. **André Lightsey-Walker** asked if it would be beneficial for Metro to waive or lower parking fees for low-income residents visiting Metro parks to limit the cost burden to vulnerable communities, and all participants agreed.

The group also agreed that many community members are worried about heat waves and wildfire safety. Recently, CEP has incorporated heat safety into their workshops, but they are trying to secure funding to create an entirely separate extreme weather workshop and emergency preparedness kit since there is a lot of concern about losing power during heatwaves, wildfires, and other extreme weather events.

Closing

Jai Daniels shared about the Disaster Preparedness and Community Resilience workshops.

Isaiah Jackman wrapped up the conversation by sharing next steps, including information about the upcoming engagement event with Street Roots, a community conversation with six unhoused community members about their experiences living outside in extreme heat.

Community Conversation with Unhoused Community Members

Cooling Corridors Study: Conversation with unhoused community on living in extreme heat

Metro hosted a candid and powerful conversation with unhoused community members, revealing how extreme heat impacts people living outside and what resources and investments could better protect their health and dignity.

Metro is in the process of developing the Cooling Corridors Study that is anticipated to be completed in Fall 2025. The study was designed to assess heat risk in greater Portland and identify strategies to reduce urban heat island effects and increase resilience to extreme heat across the region.

The session was held on Monday, May 19, 2025, from 10 a.m. to 12 p.m. at the Street Roots office in downtown Portland. Six Street Roots vendors, all with lived experience of houselessness, participated in the conversation facilitated by André Lightsey-Walker, senior transportation planner, and supported by Jai Daniels, associate climate planner, and Isaiah Jackman, graduate research assistant. Participants chose to remain anonymous.

Street Roots is a Portland-based nonprofit that supports and empowers people experiencing homelessness and poverty through advocacy, community journalism, resource sharing, and newspaper vending.

Summary

The conversation explored six themes: personal experiences with extreme heat, preparedness and response, access to resources and information, social connection and support, and visioning and solutions.

Personal Experiences

Living outside during the summer months is more than uncomfortable, it can be deadly. Participants described how extreme heat creates impossible conditions for survival.

- Some have witnessed desperate behaviors to access air conditioning, such as stealing cars to drive until the gas runs out.
- Others spoke of covering themselves in mud, digging holes in the ground, or camping near rivers just to escape the relentless heat.
- Tents trap heat and become ovens with items inside, like laptops or batteries, sometimes melting or exploding.
- The effects of heat on their health were serious: dehydration, heat stroke, chronic illness exacerbated by high temperatures, and even disease outbreaks due to unsanitary conditions.

Participants agreed that public libraries were among the most welcoming and safe places during heatwaves, yet limited hours made access difficult. Community groups like Ground Score and Street Roots were also named as essential sources of support. Still, these spaces are not enough to meet the growing need for refuge.

Their stories underscore how heat is not just a weather issue – it's a daily survival issue. And for those living outside, options are few, knowledge is inconsistent, and systemic barriers remain high.

Preparedness and Response

When asked about their ability to prepare for future heat events, participants described feeling largely unprepared and unsupported.

- Participants want early warnings about upcoming heat events, ideally a week in advance, misting stations, drinking water access, and shaded spaces in parks and public areas.

- TriMet was praised for helpful customer service, but many called for free transit fares during extreme heat to ensure access to places other than cooling centers.

Access to Resources and Information

Information about cooling centers and other resources is often hard to find or comes too late. Participants described piecing together knowledge through:

- Word of mouth, TriMet fliers, and Street Roots' Rose City Resource guide
- Listening to radio broadcasts or watching digital screens at transit stops
- Visiting community organizations like Blanchet House or harm reduction clinics

Participants emphasized that timely, visible, and location-specific information could mean the difference between safety and serious harm.

They shared ideas on how to best share information, including alerts sent to mobile phones with heat warnings and practical information (e.g., "It's 100°F today. Here is the nearest cooling center and how to get there."), digital displays at transit stops showing alerts or resource information, and fliers at places where they already gather, such as government buildings, corner stores, and grocery stores.

Social Connection and Support

Throughout the conversation, the importance of community and mutual aid was evident. In the absence of consistent institutional support, unhoused community members often rely on one another.

- Participants described checking in on elders, veterans, and those with mental illness or trauma during extreme heat.
- Some regularly volunteer at food pantries or help pick up trash to improve their surroundings.
- Groups, like Ground Score, offer purpose and paid work while building connection and dignity among peers.
- There was strong support for wellness checks, though uncertainty remained about who should conduct them.

Participants emphasized that they should not have to rely solely on each other. Institutions and service providers should formalize support systems and recognize the humanity and vulnerability of those they serve.

Visioning and Solutions

When asked to imagine a more heat-resilient city, participants offered these ideas:

- Misting systems, outdoor showers, and street sprinklers
- Heat education in schools and public campaigns on how to stay safe during heatwaves
- Distribution of cooling towels, water bottles, and hygiene supplies
- Drinking water stations on every street corner along with more public restrooms
- Better coordination of cooling center capacity, providing enough room for everyone

Participants pointed to international examples, where 24/7 cooling systems are built into infrastructure.

Key takeaways

Based on the conversation with unhoused community members, Metro learned the following:

- **Extreme heat poses daily risks for the unhoused** and current emergency response efforts are not enough.
- **Public resources like libraries and community groups are lifelines**, but these places are overstretched and under-resourced.
- There is a **strong desire for early warnings, cooling infrastructure,** and more humane treatment.
- **The unhoused community is already demonstrating leadership and care** but needs structural support to survive and thrive.
- **Climate resilience strategies must be designed with and for people experiencing homelessness**, ensuring solutions are practical, accessible, and responsive to on-the-ground realities.

They also raised the need for deeper systems change that address climate change, housing access, and inequality at the roots. As one participant put it,

"We shouldn't just patch the symptoms—we need to fix the system."

Interested in learning more?

For more information, like a detailed summary, see Metro's project website: oregonmetro.gov/coolingcorridors.

Cooling Corridors Study: Detailed Summary of Conversation with Unhoused Community Members on Living with Extreme Heat

May 19, 2025

ACKNOWLEDGEMENTS

*Special thanks to **Thijs Kleinpaste** and the rest of the **Street Roots team** for helping prepare and support the conversation and the **Street Roots vendors** who participated!*

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Cooling Corridors Study Project Team

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Overview

The community conversation was held on Monday, May 19, 2025, from 10 AM to 12 PM at Street Roots, a Portland-based nonprofit that empowers people experiencing homelessness through newspaper vending, advocacy, and resource sharing. Metro partnered with Street Roots staff to invite eight Street Roots vendors to participate in the conversation. Vendors are individuals experiencing homelessness or poverty who earn income and build community by selling the Street Roots newspaper and participating in support programs. Six vendors participated in the conversation. The participants chose to remain anonymous, so their comments will not be linked to their identities.

Summary of Discussion

André Lightsey-Walker facilitated the discussion. André is the co-lead of the Cooling Corridors Study and a senior transportation planner at Metro.

Personal Experience and Impacts

André started the conversation by asking participants: *How has extreme heat affected you personally?*

Participants stressed that the summer heat can be detrimental, forcing some in the unhoused community to take desperate measures to stay cool. One participant shared that he has witnessed people stealing cars to access air conditioning, driving until the cars run out of gas and then stealing more cars to repeat the process. A couple of participants have baked themselves in mud from the Columbia Slough or dug holes in the ground to try to get some relief from extremely high temperatures during heatwaves. One of those participants shared that being in a tent feels like being in an oven. These high temperatures have also had unexpected effects, causing items like hairspray canisters or batteries to explode or even melting one participant's laptop.

Participants emphasized that the requirements to open emergency cooling shelters are too high. The current heat threshold is 100 degrees Fahrenheit or more, but participants think that 90 degrees Fahrenheit should be the new threshold, recognizing that they struggle before temperatures reach the current threshold. Additionally, participants find it difficult to know where to find operational cooling centers.

All the participants agreed that the public library is one of the best resources, giving them shelter when it is pouring rain, extremely hot, or extremely cold. In their experience, public libraries are very inviting and inclusive spaces, and the security guards and library staff often

deal with safety issues or disturbances yet remain patient and welcoming. The only issue they have with public libraries is the limited hours, opening at 10 a.m. and closing at 6 p.m. One participant thinks public libraries serve as a good model for other community spaces, including cooling centers or resilience hubs. In addition to libraries, participants also consider the groups Ground Score and Street Roots supportive.

One participant shared that the City of Portland's Rapid Response Team (RRT) has been unhelpful and even problematic at times. RRT is an all-hazard incident response team with specialized training to respond to incidents requiring higher levels of technical expertise. He shared that RRT sometimes makes unhoused community members move their entire camp in extreme heat conditions, which is against the group's policy. He also shared other examples of negligence or damaging behavior.

André added the following questions: *Have you or someone you know experienced any health impacts due to extreme heat? Do you have any concerns about your safety or the safety of friends and family during extreme heat events?*

One of the participants recognized that pressure washing feces and urine on sidewalks in downtown Portland spreads the contaminants, making them unhealthy and unlivable for the people forced to camp on them. One of the participants is immunocompromised and has contracted diseases that cause diarrhea, which led to dehydration that was exacerbated by high temperatures. That same participant and others participating have experienced heat stroke during heatwaves.

Preparedness and Response

André asked: *Do you feel prepared for future extreme heat events?*

Although one participant shared that he is used to extremely hot temperatures, most of the participants do not feel prepared for future extreme heat events, adding that extreme heat is shocking to their bodies and that in recent years, it feels like the seasons jump from winter to summer.

André followed up with this question: *What would make you feel more prepared?*

Participants mentioned a number of cooling interventions that would help them feel more prepared, including misting stations, increased access to drinking water, and more artificial covered areas in parks.

One participant emphasized that earlier outreach about extreme heat events would be extremely helpful. He said that being able to anticipate higher temperatures up to a week ahead rather than the day before or day of an event would be ideal.

Participants shared that TriMet customer service is extremely helpful and visible. Participants believe that TriMet can improve support even further by eliminating fares for buses and MAX lines when temperatures rise above 90 degrees Fahrenheit.

Notably, one of the participants shared a story about a time he had paid his fare to ride the MAX to escape outside conditions when it was raining in the middle of the night and early morning. He slept in his seat until a transit cop forced him off the train even though he had paid his fare. Another participant added that fare inspectors sometimes give tickets even when people have a transit pass if they forget to scan or leave their pass at home.

André followed up with this question: *What do you usually do during extreme heat events to stay safe and cool?*

One of the participants mentioned Community Free Store PDX. The group sets up tents in different places in Portland, including Old Town, to give away free supplies, such as clothes, diapers, haircuts, massages, shoes, harm reduction supplies, and hot food. Another mentioned the nonprofit HOMEpdx. The group serves as a gathering place for people who are housed or unhoused, providing free meals, resources, weekly gatherings, a safe environment, and sense of community. However, the participant noted that limited staff and operating hours meant that he could not rely solely on the group for his needs.

Participants listed different places they go during hot days, including the public library, community centers, and cooling centers. One participant recognized that the old Street Roots office operated as a cooling shelter in the past when temperatures reached 100 degrees Fahrenheit or more. One participant noted that he went to a church in Northwest Portland that served as a cooling center where he was given bottles of water and a new shirt and pair of shorts to replace the ones he had sweated through. One participant had been to the Oregon Convention Center when it operated as a cooling center. Though her experience with the convention center was favorable and she felt well cared for, a major issue she faced was that it was not opened until the 100-degree Fahrenheit threshold.

For one participant, it feels more difficult to go from high outdoor temperatures to an airconditioned space and then back outside into the heat. This makes her battle between staying outside entirely to try to adapt to the heat or going inside an air-conditioned building to get some temporary relief.

André asked: *If you must leave your living space during a heat event, where do you go and how do you get there?*

In the summer, most people try to find shaded spots to set up camp, which can be hard to find. Once they are settled, it is not easy to move their camps. When able, participants go to pools, rivers, and places with trees to try to escape the heat.

One participant added that the nonprofit Gather:Make:Shelter is a great resource. The nonprofit offers a series of programs designed to unlock creative potential, foster personal growth and enhance the quality of life for people experiencing houselessness and poverty. The programs include art workshops, a mentorship program for professional artists and houseless artists, and community-building events like open mic nights and poetry readings.

André added: *Do you feel more prepared for extreme cold or extreme heat events?*

Most participants feel unprepared for both extreme cold and extreme heat events. However, they admitted that most people generally seem to be more worried about freezing cold temperatures and are more familiar with how to prepare for and deal with cold air, snow, and ice.

Alternatively, people are unsure what to do to prepare for and deal with extreme heat. To participants, it is easier to bundle up, gather with friends in close proximity, and use fires and handwarmers to keep warm than it is to respond to extreme heat. They added that there seem to be far less resources for extreme heat events than extreme cold or snow or ice events. To them, people in society are trained to know what to do when it becomes cold yet have no idea what to do when it is hot. Also, contrary to the extremely high threshold for cooling shelters, warming shelters are opened at a more reasonable threshold of 32 degrees Fahrenheit.

Access to Resources and Information

André asked: *How do you find cooling resources?*

One participant mentioned Street Root's Rose City Resource, a comprehensive list of services for people experiencing homelessness and poverty in Clackamas, Multnomah and Washington counties. Participants also mentioned the radio, word of mouth, and fliers at TriMet stops as methods to learn about cooling resources.

Public libraries, social service organizations like Blanchet House, and harm reduction clinics were cited as good places to source information.

One participant suggested the creation of an alert system using cell phones with messaging like, "It is over 100 degrees Fahrenheit. Here is the nearest cooling center." More tailored messaging that includes resources is desired.

Other ideas included outreach efforts, such as fliers, at government buildings, convenience stores, and larger grocery stores like Safeway and Fred Meyer's.

One participant shared that the digital screen at transit stops include alerts about extreme heat. She emphasized that TriMet screens are seen no matter where you are in the city. Participants shared that it would be helpful if these screens also shared resources. André suggested that the screens can suggest the nearest cooling center or other resource.

Social Connection and Support

As a note, it was evident throughout the conversation how important community is to the participants. Some shared activities they do to help others in their community like picking up trash and volunteering at food pantries or Ground Score Association. Ground Score is a collectively organized and inclusive group of informal recyclers, canners, dumpster divers, and other waste pickers who create and fill low-barrier waste materials management jobs in Portland, prioritizing work opportunities for those facing work and housing insecurity.

André first asked: *Who do you check on or support during extreme heat events?*

Participants listed elders, veterans, and those with mental illness or trauma – people who may not be okay even in normal weather conditions. They added anyone without proper air conditioning.

One participant said that wellness checks on extreme heat days would be helpful, though she was unsure who would be best to conduct the checks.

Visioning and Solutions

To wrap up the conversation, **André** posed the following questions: *If you could design your neighborhood to be more heat-resilient, what would you include? If you had a magic wand, what would you implement to ensure your community is prepared for extreme heat events? What types of community investments or infrastructure would make the biggest difference in keeping people safe and comfortable during extreme heat?*

In response, participants said misting in public spaces, pamphlets that share all the ways you can keep cool or take care of yourself during heatwaves, outdoor showers, heat resilience education at a young age, and wide distribution of instant cooling towels that rely on water to work.

They shared examples from other places with different kinds of infrastructure, like sprinklers on streets or comprehensive misting systems connected to buildings that operate 24 hours a day, that reduce heat.

Recognizing the importance of staying hydrated, access to clean drinking water is vital to the participants and unhoused community in general. Participants want access to more water

fountains and water bottle filling stations. If they could wave a magic wand, participants would like to see water bottles at every street corner.

Participants added that access to more cooling facilities would be helpful as there does not seem to be enough space to shelter everyone that needs to be sheltered on high temperature days.

One participant highlighted that climate change is contributing to more frequent extreme heat days – stressing that we need to also address the central issue and not just provide a remedy for the symptoms.

Other Takeaways

One participant shared an example of a situation when a large group of people did not respond to a life-threatening situation. This led to reflection on how people tend to stay silent in a group when witnessing something wrong and the importance of speaking up and acting instead of waiting for others to do so first.

Participants also reflected on the fact that most people are one negative incident away from being unhoused, like a traumatic experience or one or two missed paychecks. They shared that it is so hard to build yourself back up once you've been forced to live outside. They also emphasized this important fact – every unhoused person is someone's family member and should be treated with the care and respect they deserve.

Closing

André ended the conversation by discussing next steps for the Cooling Corridors Study.

Community Conversation with Older Adults

Cooling Corridors Study: Conversation with older adults on living in extreme heat conditions

Metro hosted a conversation with older adult residents to better understand their experiences living with extreme heat, challenges in staying safe and cool, and ideas for improving community resilience.

Metro is in the process of developing the Cooling Corridors Study that is anticipated to be completed in Fall 2025. The study was designed to assess heat risk in greater Portland and identify strategies to reduce urban heat island effects and increase resilience to extreme heat across the region.

The project team partnered with Northwest Pilot Project to invite eight older adults to participate. Metro hosted the conversation on Monday, July 28, 2025, from 10 a.m. to 12 p.m.

Five older adults participated along with two members of Metro's Cooling Corridors Study team. André Lightsey-Walker, senior transportation planner, facilitated the conversation, and Jai Daniels, associate climate planner, took notes.

Northwest Pilot Project

Northwest Pilot Project (NWPP) is a nonprofit that connects low-income seniors in Multnomah County with affordable, safe, and permanent housing.

Summary

The conversation focused on five key themes: personal experiences with extreme heat, individual and community preparedness, access to resources and information, social connection, and future resilience visioning.

Personal Experiences

Participants shared deeply personal and often painful experiences of living through extreme heat events. Their stories underscored how dangerous and disorienting these events can be, especially for people living alone, in poorly insulated buildings, or without access to reliable cooling.

- One participant recounted living in an apartment with a metal roof, which became extremely hot during heatwaves.
- Several shared that they limit A/C use due to fear of unaffordable utility bills even when indoor temperatures are dangerously high.
- Transit users described waiting at bus stops during hot weather with little to no shade, sometimes exposed to even more heat reflected from nearby buildings.
- One participant developed blisters and heat-induced anxiety, while another recounted experiencing heat stroke symptoms without realizing what was happening.
- Some escape to the coast when they can, but most remain in the city they live in and struggle to find refuge from the heat.

Preparedness and Response

When it comes to readiness, participants expressed a common feeling of vulnerability and concern. While some have taken steps to prepare for heat, such as stocking water, using fans, or identifying cooler places to go, many still feel unequipped to handle increasingly frequent and severe heat events.

- Participants expressed a need for basic supplies, such as fans, water, and emergency kits.
- Public misting stations were mentioned repeatedly as a practical and visible way to cool down, especially near transit stops.
- There was consensus that free public transit on extremely hot days (with a

suggested threshold of 90–95 degrees Fahrenheit) would enable people to access cooling centers, libraries, and other safe places.

- Some noted that TriMet service hours and transit stop and shelter designs do not currently support people who rely on transit during heat events.
- Simple cooling tips, like putting frozen water bottles in front of fans, were shared, illustrating how creative but piecemeal current response efforts can be.

Access to Resources and Information

While some public agencies have launched heat alert systems and resources, most participants had not heard about them. This underscores the fact that even when tools are available, they often fail to reach the people who need them most.

- Participants said they learn about emergencies through radio or word of mouth.
- Participants suggested posting heat-related health information on buses or at bus stops and using smartphones, billboards, or mailers to reach older adults who do not use social media.
- One participant no longer has access to cable TV, which used to be their primary source of news, highlighting the growing digital divide and need for diverse outreach methods.

Social Connection and Support

Social isolation during extreme heat is a serious concern. Participants shared that wellness checks are rare, even in housing designated for older adults, where vulnerability is high.

- Residents expressed concern for neighbors who might go unnoticed during heatwaves, especially those living alone or with limited mobility.
- Participants questioned whether property managers have plans or enough staffing to conduct wellness checks during emergencies.
- Ideas shared included partnering with organizations, like Meals on Wheels, to incorporate heat safety check-ins and posting notices directly on residents' doors with guidance on how to recognize the symptoms of heat stroke and where or how to get help.
- Several shared heartbreaking stories of neighbors, friends, or family members who had died alone during extreme conditions, going unnoticed for days or weeks.

Visioning and Solutions

When asked to imagine what a more heat-resilient neighborhood would look like, participants offered practical and creative ideas.

- Participants proposed misting stations, public fountains, and water bottle refill stations throughout neighborhoods and near bus stops. They called for expanded tree planting but emphasized the need for careful planning to avoid root damage to sidewalks, especially for those with mobility aids.
- Public art installations that provide shade were suggested, reflecting a desire for solutions that are both functional and beautiful.

Key takeaways

Based on the conversation with older adults, Metro learned the following:

- The **health impacts of extreme heat are a top concern for many older adults**, especially those living alone or on lower incomes.
- **Access to cooling resources and knowledge of best safety practices** are limited or unknown to many residents.
- **Preparedness education, proactive outreach, and protective infrastructure** like misting stations and shade structures are deeply needed.
- **Utility costs on fixed incomes impact people's decision to provide themselves with the proper cooling** in their homes.
- **Social isolation during extreme heat is a serious concern** for older adults living alone or who know friends or family living alone. **Strengthening social connections must be a central strategy** in any emergency response plan.

- Participants wanted portable cooling options for their homes, like box fans or energy-efficient A/C units, paired with education on how to use them without spiking energy bills.

Interested in learning more?

For more information, like a detailed summary, see Metro's project website: oregonmetro.gov/coolingcorridors.

Cooling Corridors Study: Detailed Summary of Conversation with Older Adults on Living with Extreme Heat

July 28, 2025

ACKNOWLEDGEMENTS

Special thanks to **Rebecca Jones-Childs** and the rest of the **Northwest Pilot Project team** for helping prepare and support the conversation and the **community members** who participated!

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Shannon Stock, program assistant, Metro Planning, Development and Research
Molly Cooney-Mesker, communications manager, Metro Planning, Development and Research
Lakeeyscia Griffin, senior public affairs specialist, Metro Planning, Development and Research

Overview

The conversation was held on Monday, July 28, 2025, from 10 a.m. to 12 p.m. at the Metro Regional Center in Room 328a. Metro partnered with Northwest Pilot Project to invite eight older adults to participate in the conversation. Northwest Pilot Project staff help connect low-income seniors (55 and over) in Multnomah County with rental housing that is safe, permanent, and affordable. Five low-income seniors participated in the conversation: Russ B., Denise P., Ron V., Lorelei C., and Daniel T. Two members of the Cooling Corridors Study project team participated in the conversation. André Lightsey-Walker, project co-lead and senior transportation planner, facilitated the discussion. Jai Daniels, associate climate planner, took notes.

Summary of Discussion

Personal Experience and Impacts

André started the conversation by asking participants: *How has extreme heat affected you personally?*

Denise P. used to live on the third floor of an apartment with a tin roof, which became extremely hot on higher temperature days. At the time, she was living alone and scared about her health and safety during heatwaves. She'd escape the heat by going to the nearby mall and taking cold showers, but she did not know the best ways to manage the extreme heat. She has had family members experience heat stroke in the past, and she described these instances as extremely scary to witness because she was unaware of how to help them. She also shared that she is unable to swim now making her fearful of using water to escape the heat. She added that she recently received a free portable A/C unit through the Cooling Portland program, which she prefers over her window A/C unit.

Russ B. travels to the coast to escape the heat when he can. When staying in the region, he tries to find shady spots or places with higher levels of wind.

Ron V. utilized the Oregon Convention Center when it operated as a cooling center in 2021 during the heat dome, and he shared that he felt safe while there. He mentioned that it felt even hotter outside whenever he left the cooling center and that he could not imagine how to survive being outside. He commented that he did not notice any cooling centers operate last summer even on hot days. **André** asked Ron: *Was there programming at the cooling center?* He shared that the only activity he remembered was a TV with cable. There were also sleeping cots, food, drinks, and donated clothing available. At cooling centers, Ron would like access to Wi-Fi and computers while other participants shared that they would like access to games and cards, magazines, and DVD movies.

Daniel T. lives in a low-income building where he receives a stipend for utility bills. He is extremely concerned about high utility bills, so he tries to minimize his use of air-conditioning

to avoid going beyond what the stipend will cover. He only uses his A/C unit for a few hours during the highest heat of the day. He added that even during the winter, his apartment can get as high as 84 degrees Fahrenheit. He also shared that he now has health issues that cause blisters during extreme heat events. As someone who does not own a car, he is a regular transit user, and his main destinations are the grocery store and doctor's office. He mentioned that some of the bus stops he uses are shaded, but at one stop in particular, the sun shines on a nearby building covered with windows which reflect light directly on the bus stop, defeating the purpose of the shelter. That bus comes every 30 minutes. He ended by saying that he suffers from high anxiety regarding his utility bills and travel.

In response to Daniel's comment on the bus shelters, **Russ B.** shared concerns with TriMet. He mentioned that some bus shelter roofs are metal or clear, but he'd like to see darker roofs to provide better shade.

Lorelei C. shared about a time she spent an extended period of time outside during a day that reached temperatures over100 degrees Fahrenheit. She said that she began to experience heat stroke when she went home but did not know what was happening. She had no idea how to address her sudden illness and shared that it would be helpful to have better education and information on how to deal with heat stroke.

André added: *If there was information on how to prepare shared widely, would it be helpful?* All participants agreed.

Preparedness and Response

André asked: *Do you feel prepared for future extreme heat events? What would make you feel more prepared? What challenges do you face?*

Lorelei C. does not feel prepared. She'd like to have greater access to drinking water for her own health but also for her to share with others who are less fortunate. She added that an emergency kit would help her feel more prepared. **Ron V.** tries to prepare for heat events by storing frozen food and gallons of distilled water and tap water to be used only during emergencies. He has a battery-powered fan, but he'd feel more prepared if he had access to stand-up fans. He saw a video where someone put frozen water bottles in front of a fan to blow cool air. He suggested adding heat-related information, such as heat stroke symptoms, on bus stops. **Russ B.** mentioned that he's noticed that some TriMet buses end service early in the evening, which can be limiting for people who rely on transit and want to go to activities after service hours.

André added: *What do you usually do during extreme heat events to stay safe and cool? If you must leave your living space during a heat event, where do you go and how do you get there?*

Most participants use transit to access air conditioning, but some participants shared that some transit vehicles are cooler in temperature than others. Other answers included parks and other green spaces. Participants would like to see misting stations at bus stops but suggested that other spots are considered for misting as well.

André followed up with this question: *If we were to propose free transit after a certain temperature threshold, what temperature would you all consider a reasonable threshold?* The participants agreed that 90-95 degrees Fahrenheit made sense. **Ron V.** mentioned that people should take into consideration that even if the outdoor temperature is 95 degrees Fahrenheit, concrete and other traditional pavement may make temperatures feel hotter. He added that providing free transit may save money over time by reducing the number of emergency visits.

André asked: *Do you feel more prepared for extreme cold or extreme heat events?*

Everyone answered that they feel more prepared for extreme cold than extreme heat.

Access to Resources and Information

André asked the following: *Are you aware of existing resources (like cooling centers or alerts) designed to help during extreme heat events? How do you learn about these resources (news, social media, word of mouth, etc.)?*

Russ B. shared that OPB has public service announcements on the radio. **Daniel T.** asked if governments could use the heat alerts on smartphones, suggesting that that feature is a good avenue for sharing information. **Denise P.** mentioned that she used to have cable but can no longer afford to access this resource. **Ron V.** said there is information on buses that lead people to a website with emergency preparedness information.

André followed up with this question: *Have you heard this audio spot from Multnomah County focused on heat and men aged 50 years and older? He shared that the audio spot has been shared on streaming audio like Spotify, Pandora, and podcasts. He then played the audio spot for all participants.*

None of the participants have heard the audio spot even though a couple of participants do listen to music online. All participants shared that they found the information that was shared very helpful. **Denise P.** said it was helpful to hear that heat especially affects men over 50 because she knows now to check on people in her life who are a part of that demographic. **Ron V.** highlighted that he did not hear a referral to a website with more information. He said that would be a helpful addition to the information. **Russ B.** shared that billboards would be a good avenue to share information.

Social Connection and Support

André asked: *Who do you check on or support during extreme heat events? Who would you ask for help if you needed support during a heatwave?*

Lorelei C. and **Denise P.** said that within their living communities, wellness checks do not happen, but that they would be extremely helpful. **Daniel T.** said that residents in his living community check on each other if they haven't seen each other in a while. He also shared some stories about family and friends that have passed away without anyone being aware for

weeks because they lived alone and had no one to check on them, highlighting how important building community and implementing wellness checks can be.

Daniel T. and **Ron V.** asked some questions regarding emergency preparedness and response at residential buildings: Do commercial residential properties and income-restricted residential properties have emergency plans for issues like extreme heat or loss of electricity? If not, can emergency plans be encouraged? What happens when property staff are not working? Would staff be willing and able to check on residents, outside of working hours, when there are heat waves? Do property managers have a list of people they should check on? Can property managers collect a list of residents willing to help check on neighbors or conduct wellness checks? Can apartment complexes and other living communities share emergency preparedness instructions with residents?

Daniel T. suggested that at residential buildings housing high risk communities, such as disabled and elderly residents, property managers or supportive housing service workers should take the lead on wellness checks while recognizing that sometimes managers are unavailable or there is rapid turnover in staff. **Ron V.** shared that bulletin board notices, such as information on how to prevent heat stroke or how to keep cool, may not be helpful, but more direct notices posted on residents' doors may be seen more easily and helpful.

Denise P. suggested Meals on Wheels as an avenue for wellness checks since they deliver food once a week.

Visioning and Solutions

To wrap up the conversation, **André** posed the following questions: *If you could design your neighborhood to be more heat-resilient, what would you include? If you had a magic wand, what would you implement to ensure your community is prepared for extreme heat events? What types of community investments or infrastructure would make the biggest difference in keeping people safe and comfortable during extreme heat?*

Denise P. shared a few ideas she would like to see in the future, including misting stations, mechanisms that allow older adults or people living with disabilities to access water safely, and ways to check in on people in the community who may have no one to check in on them. If **Ron V.** could wave a magic wand, he would move everything underground. He also suggested the following: remove asphalt around trees, build art installations that provide shade, and supply portable misters in public spaces. At home, he suggested that people can be given box fans to use to move cooler outdoor air inside when indoor temperatures become higher than outdoor temperatures. **Russ B.** emphasized Ron V.'s point about asphalt around trees by sharing that tree roots often ruin sidewalks which can create mobility issues for those who need mobility devices or have difficulty walking. He added that he'd like to see more public fountains and other water features, such as splash pads.

Closing

André ended the conversation by discussing next steps for the Cooling Corridors Study.

Internal Conversations with Metro Staff

Cooling Corridors Study: Summary of Internal Conversations with Metro Staff about Draft Recommendations

July 2025

ACKNOWLEDGEMENTS

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Waste Prevention and Environmental Services

Laurel Bates, waste prevention outreach specialist
Noelle Dobson, Community Enhancement grant manager

Overview

In June 2025, the project team facilitated individual and group conversations with twenty-one Metro staff from different departments to discuss the draft recommendations for the Cooling Corridors Study. The conversations aimed to help ensure that final recommendations are feasible and reasonable for Metro staff and public agencies to implement, and to address any potential challenges to implementation. The conversations were focused on different topics relevant to the work, expertise, and interests of Metro staff across the agency.

The conversations were designed to introduce staff unfamiliar with the Cooling Corridors Study to the project and to familiarize the project team with existing efforts at different Metro departments related to draft recommendations that the project team developed based on the study's background research and engagement efforts. During the conversations, Metro staff shared insights into the role Metro can play in the region to build heat resilience and suggested recommendations or revisions to draft recommendations for the project team to consider.

Key Takeaways

The conversations revealed that there is already great work being done at Metro related to building heat and climate resilience at the agency and across the region.

Further collaboration is needed across Metro departments to ensure that efforts are not siloed, resources and knowledge can be shared, and staff can support staff on other teams working on similar projects.

Metro plays a significant role in facilitating collaboration across the region and by setting examples for other public agencies.

Summary of Conversations

Communication, Education, and Community Resilience and Adaptation

Participants

Laurel Bates, **Yohannes Wolday**, and **Noelle Dobson** participated in conversations focused on developing recommendations related to communication, education, and building community-level or community-based resilience and adaptation to heat.

Takeaways

Education

The Waste Prevention and Environmental Services (WPES) department hosts education programs that include classroom presentations, community events and workshops, and learning gardens. The programs are available free of charge to schools and groups located in Clackamas, Multnomah, and Washington counties. Over 30 years, the program has established longtime relationships with teachers and other school staff across the region, and program educators continue to form new relationships each year. The program is available to public and private schools in every school district in the region, and there is heavy demand to have outside experts teach students about climate change. The secondary program delivers one two-part presentation differentiated between middle school and high school.

Curriculum is guided by WPES priorities and state standards for schools. For example, climate change is included in state standards for sixth grade. Recently, the secondary program has integrated a lesson on extreme heat, including looking at an online tool that shows how temperatures have changed in Portland over the past several decades. Educators have noticed that students are more engaged when lessons are grounded in local examples. WPES educators have expressed interest in expanding and building a new program to offer to schools that could better integrate extreme heat.

Community Partnerships and Resources

The Council Office is currently working on several efforts that address the needs that were expressed by community group representatives and community members during engagement on the Cooling Corridors Study, including developing a map of resilience hubs in the region, supporting a community resource navigator, and creating a shared data platform to track and share community resources.

Considering that local groups have already developed or are developing educational or training materials related to climate and heat resilience, one participant suggested an approach to develop generic training programs or templates based on existing resources that can be customized using a customization tool. He mentioned that standardized curriculum does not make sense because of location-specific or culturally specific needs.

To create the generic templates, Metro can consider directing staff or consultants to collect and document all educational and training materials that exist in the region from public partners and community organizations. Once collected, the materials can be analyzed to find commonalities and determine what can be part of the template and what needs to be customized. A multi-day workshop for community groups can help with development. The

customization tool can be a series of questions that public agencies or community groups can consider tailoring the template to meet their needs. The template and customization tool can be piloted and tested on one to two community groups before wider distribution.

It is extremely important to continue to coordinate efforts across Metro and the region. One participant recommended reviewing plans, such as the 2025 Climate Justice Plan from Multnomah County, and asking for feedback from public agencies. One such coordinating effort is a comprehensive, regionwide map identifying a number of cooling resources. One participant shared that the map should include how the different resources can be accessed by walking, biking, and transit.

Metro staff can support the work of community-based organizations through legislative support, showing up to community meetings and events, and establishing ways to offer technical support. Metro staff can also evaluate how unions have addressed extreme heat and supported worker safety and consider sharing guidance with public agencies and community groups on how to address extreme heat in the workplace.

Outreach and Communication

The Communications team in the Planning, Development and Research department are available to support crafting messaging and distribution plans for any of the recommendations.

One initial idea included connecting with the network of Public Information Officers in the region to see if that is an avenue for sharing out resources and information. Another idea included tabling at cooling centers and other community spaces to share information and resources, such as a regionwide cooling resources map, to people in those spaces. These tabling events may also provide a good opportunity to solicit feedback from community members using surveys to better understand their needs and level of understanding or knowledge on heat-related issues like identifying heat-related illnesses and available resources. Regarding the regionwide cooling resources map, one participant had the idea to make the map available on Google Maps.

Another participant shared that storytelling is an effective way to communicate climate work and climate-related issues and experiences. Metro can write stories around climate, featuring the lived experience of community members, climate work at local community organizations, or case studies from outside of the region. Metro and other agencies can use media to talk about climate work in a more relatable and easy-to-digest way. A first step for Metro could be to focus on Metro staff and include stories on Metro Together.

Parks and Nature and Trees

Participants

Rod Wojtanik, **Jonathan Soll**, **Lori Hennings**, **Tommy Albo**, and **Alice Williamson** met to discuss recommendations related to parks, natural spaces, and trees.

Takeaways

Current Metro Efforts

Participants shared current Parks and Nature efforts related to heat. One type of effort is the coordination of regional working groups, such as those focused on wildlife corridors, Oregon white oak trees, and climate adaptive plant materials. Climate Adaptive Plant materials working group made up of internal and external partners who are directly involved with restoration efforts in the region. The group is looking at how some of the most common species will handle climate change impacts in the future and research how to best bring in new plant stock. The working group is forming two new committees, one to research and develop best practices and one to work with farmers to grow climate adaptive materials. One participant noted that developing a more substantial web presence for the working group would be helpful to share materials more widely.

Other efforts are improving core habitats in the region through both quantitative and qualitative means and helping repair fragmented habitat and retaining the habitat cores that are remaining. The department also helps minimize development pressure in Metro's developed parks by carefully planning and managing public spaces with a thoughtful lens on climate adaptation along with access to nature.

All of Parks and Nature bond investments include criteria for climate resiliency. These investments provide local share investments and grants and help secure land acquisitions, and staff often help local jurisdictions with bond funds to help with their missions while staying aligned with the necessary criteria.

Increasing the number of street trees and the amount of urban canopy is not a central role Metro plays in the region, however, Parks and Nature staff work alongside local jurisdiction staff by providing support for green street projects via grant programs.

Metro's Role in Building Heat Resilience and Providing Support

To support efforts across the region from public agencies and community organizations, participants shared that Metro's most effective role is to coordinate efforts and convene partners to discuss issues and subsequently produce science-based guidance on best practices and smart strategies for agencies and other groups in the region. For example, WPES has played a role in developing materials in partnership with local soil and water

conservation districts to provide resources, tools, and information for individual landowners. Metro can provide a landing page on the agency website with links to guides and tools provided by public and community-based partners that can be used by other groups. Additionally, Metro can also take a blended incentive and regulatory approach when possible.

Important Considerations

The City of Portland's Urban Forestry Management Plan update addresses the key issue of funding for the long-term maintenance of street trees. The City has enough staff and capacity to do analyses on issues like street trees. Many jurisdictions and individual businesses may not have capacity to do sophisticated analyses or have a good understanding of the consequences of actions or inaction. When Metro and Metro's partners are able to convene (with Metro funding the convening), these groups that are convened can build tools that fit their needs.

Title 13 protects stream corridors and wetlands in the region. There is likely no political support for Metro to strengthen environmental regulations, such as Title 13, or to create a regional street tree or urban canopy code.

Suggested Recommendations

Participants shared examples of ideas or support for recommendations to include in the Cooling Corridors Study report. Metro should consider adding a spatial layer on habitat connectivity to Metro's Regional Land Information System. Participants also find value in a publicly available shade model. Lastly, Parks and Nature staff can continue to learn from sites, such as the Eagle Creek natural area that burned during wildfires in 2017, to inform future planning and policies. These sites can also be used for educational opportunities for people outside of Metro.

Roofs and Buildings

Participants

Andrea Pastor, **Rory Greenfield**, **Dana Visse**, and **Emily Lieb** weighed in on possible recommendations for physical infrastructure like roofs and buildings.

Takeaways

Current Metro Efforts

Metro's Capital Asset Management (CAM) team houses a Sustainability team responsible for guiding sustainability practices in Metro facilities. The team is in the process of developing sustainability sites.

Metro's Transit-Oriented Development program gives developers a menu of preferred design elements – such as strategies to combat urban heat islands, a reduction of onsite parking, and energy efficient design – that developers can choose from to adapt to their development sites.

In 2021, Metro's chief operating officer directed the Housing department to provide guidance to seven jurisdictional partners strongly encouraging in-unit air conditioning in bond projects.

Metro's Role in Building Heat Resilience and Providing Support

To support private development of green buildings and the implementation of air-conditioning systems in units, especially affordable housing, financial incentives are likely the most effective way Metro can help. According to one participant, Metro should consider taking a stronger leadership role in the region and provide more resources and incentives to build green buildings. For example, in the past, Metro has given $50,000 bonuses to developers who demonstrate climate leadership.

Important Considerations

Participants mentioned some implementation challenges:

- The State of Oregon prevents local agencies from setting development mandates that go above and beyond the state building code. Public agencies can only incentivize additional treatments.
- Green building standards are sometimes seen as too rigorous and demanding.
- Adding requirements for affordable housing, such as requiring green roofs or air-conditioning in every unit, may make affordable housing development more expensive and less preferable. Metro's Housing department wants to avoid adding to the burden to the build affordable housing as much as possible.
- The State of Oregon requires that new buildings must be solar ready, however, most developers do not include the cost of the physical panels and implementation. Similarly, developers sometimes omit the cost of maintenance needed to upkeep features like green roofs.

Participants also noted the importance of encouraging developers to scope green building treatments into project budgets as early in the process as possible and the importance of having conversations with different jurisdictions to verify what they are willing to do in regard to mandating development.

Suggested Recommendations

The following ideas emerged from the conversations:

- Considering many developers are not aware of all available incentive programs, Metro should consider developing guidance to connect developers to existing incentive programs. There can be different menus of options for developers doing retrofit projects and for developers building new developments. Metro can compile this information and publicize the guidance on Metro's website and share it with other jurisdictions.
- Participants supported the idea to streamline permitting for certain green building features or green infrastructure as well as other ways to simplify development.
- One participant recommended developing a pilot project to build shade structures at bus stops. This pilot project could build political and community support for a more widespread effort.
- Another participant expressed interest in a comparative analysis of bond funded affordable housing in Portland that accesses funding from the Portland Clean Energy Fund (PCEF) and affordable housing outside of Portland that cannot access PCEF funding and how that may affect the ability of developers to build green or cooling features. Staff suggested that a more ambitious and long-term goal could be to develop a regional funding program for climate projects similar to PCEF.
- As Metro's Housing department prepares to discuss the next housing bond, Metro can evaluate successes and challenges that emerged from implementation from the last bond and determine what the agency wants to do differently in the future in terms of supporting energy efficient buildings and building climate resilience.

Streetscape Design and Pavement

Participants

Tom Kloster, **Lake McTighe**, **Robert Spurlock**, **Will Cortez**, and **Jennifer D'Avanzo** discussed important considerations for streetscape design related to heat resilience.

Takeaways

Current Metro Efforts

Oregon Parks and Recreation developed a guide for new construction at parks that Metro wants to expand on. Metro Parks and Nature department is in the process of developing accessibility standards and guidelines for Metro Parks and Nature sites as well as updating site furnishing standards.

Metro's Role in Building Heat Resilience and Providing Support

Participants consider that the best support Metro can provide is incentives, regional requirements, and examples of best practices. They noted that incentivization should be prioritized and use of mandates should be limited and deliberate. Metro's grant programs, such as the regional flexible funds, can be used to provide financial incentives to other public agencies, community groups, developers, and others to implement cooling strategies. One example of guidance or a requirement that Metro could adopt is for cities to increase access to publicly accessible drinking water. Lastly, Metro can consider providing templates and other forms of information designed to support city and county agencies in implementation. One example is providing model code to show how to write effective street codes that integrate green infrastructure.

Important Considerations

Participants shared some ideas that should be considered when refining recommendations:

- One of the main purposes of the study, to prevent avoidable deaths due to extreme heat, should be centered in the report and a main driver in the refinement of recommendations.
- It is important to highlight co-benefits, such as increased recreational opportunities and safety, to cooling strategies like street trees.
- It is important to consider how implementation of different strategies can be low-cost, quick, and localized. Neighborhood-centric actions may have greater impact.

Participants also highlighted accessibility considerations:

- When evaluating accessibility at parks and other sites, it is important to consider how people arrive to the space (i.e., Did they arrive via sidewalks, transit, or bicycle?) and travel within the space (i.e., Are there places to rest along trails?).
- Reflective pavement can reflect sunlight in a way that is overwhelming for folks with low-vision or other vision impairment.
- Natural and permeable surfaces can be difficult or uncomfortable to maneuver for people with mobility issues. Pavers can be extremely difficult if not well maintained, and accessibility concerns can worsen if pavers shift over time or are overgrown.

Suggested Recommendations

The following ideas emerged from the conversations:

- Metro can enhance Metro-owned and operated facilities with strategies, like climate resilient trees or permeable pavement, to use them as demonstration projects.

- Metro can explore different pavement types in Metro's Designing Livable Streets and Trails Guide and how these different surfaces may impact accessibility or heat retention.
- Metro Parks and Nature plans to write accessibility guidelines with Metro-owned and operated spaces, and these guidelines should include considerations for green infrastructure like permeable pavement and reflective pavement.
- Metro and other public agencies can incorporate heat-related ideas into plans and standards for park design and development (e.g., benches, picnic tables, fencing, and bike racks).
- Metro can research best practices for implementing green infrastructure, shade structures, and water features, such as misters and splash pads. This research can include the costs of operating water features and possible funding streams. Additionally, public agencies can consider opening splash pads based on temperature thresholds rather than time of year.
- Metro and other public agencies can work with utility companies to put utilities under the ground.
- Metro can assess what challenges Metro staff face when implementing and maintaining green infrastructure and shade structures and later determine how to address these issues. Metro can research how other areas are addressing long-term maintenance issues for implementation of green infrastructure and street trees.
- Metro can consider increasing staff capacity for the operations and maintenance teams in the Parks and Nature department in order to maintain shade structures and green infrastructure.
- Metro can look into ways to increase permeable pavement and de-paving projects. These types of projects are out of the scope for park design and development standards but relevant for planning efforts.
- Metro can explore trails or other avenues for connecting with natural bodies of water and possibly develop a guide to "cooler" trails.
- Participants support a regional map of cooling resources. This map should include publicly accessible drinking fountains.
- Metro and other public agencies can consider adding misting to water fountains like the Benson bubblers.
- Metro can consider adopting guidance or a requirement for publicly accessible drinking water for certain streets.
- Public agencies can consider building a succession plan for non-native trees considering some invasive trees are drought tolerant.

- Metro can help other public agencies figure out how to maintain street trees, including how to address issues with overhead utility lines.

Emergency Management and Operations

Participants

Kaylie Guderian, **Natalie Rogers**, **Emily Bahus**, and **Brian Landreth** met to discuss emergency management and operations at Metro.

Takeaways

Current Metro Efforts

Participants shared emergency response procedures at Metro, such as internal communication channels triggered by different heat index thresholds and enforcement of heat safety protocols.

At the beginning of the calendar year, Metro sends out emergency preparation messages to employees, including worksite-specific suggestions related to heat. Metro sends reminders about how to prepare the first time the heat index reaches 80 to 84 degrees Fahrenheit and the first time the heat index reaches 85 to 90 degrees Fahrenheit. When the heat index reaches 90 to 99 degrees Fahrenheit, all managers across Metro departments receive official notices with important information. Once the heat index reaches 100 degrees Fahrenheit, a coordination call is held with staff from all Metro facilities to determine if facilities will close or stay open, with the chief operating officer making the final decisions on facility closures. At 106 degrees Fahrenheit, an all staff message is sent.

Metro also has heat-related training programs that are offered in Metro Learning that include protocols for providing water, rest, and shade during hotter weather for staff that are directly affected by heat. Internally, supervisors of direct areas are responsible for overseeing breaks and looking for signs of heat illness in employees. The Oregon Health Occupational Safety and Health Administration can conduct safety inspections at any time.

Metro's Role in Building Heat Resilience and Providing Support

The group did not specifically discuss Metro's role in the region during the conversation. The conversation focused more on possible regional coordination with groups like the Regional Disaster and Preparedness Organization (RDPO) and emergency management staff at city and county agencies.

Important Considerations

Participants also shared existing emergency heat procedures in the region at other public agencies, including operation thresholds for county-operated and city-operated cooling

centers. The counties in the region often direct municipalities to open cooling centers. In Multnomah County, county-owned cooling centers are opened when temperatures hit 90 degrees Fahrenheit. Depending on present events and capacity, the Oregon Convention Center may be activated as a cooling center once county-owned cooling centers have been opened.

Participants mentioned some helpful resources that exist at RDPO that may support the Cooling Corridors Study and heat-related work. RDPO has developed emergency operations training for public agencies and formed the Emergency Managers Work Group (REMTEC) and the Public Information Officers (PIO) Work Group. REMTEC helps develop the region's disaster preparedness capabilities with a focus on the emergency management discipline. REMTEC manages a library of messaging tools hosted on publicalerts.org that can be used to communicate to the public on a variety of hazards, including extreme heat, in multiple languages. The library compiles over 1,200 urgent written messages that can be used to create social media or website content, emergency alerts, and educational fliers. There are also copyright-free illustrations, fliers, videos, and audio files available related to heat. The PIO Work Group is a network of individuals from different agencies, disciplines, and jurisdictions who support the communication of emergency public information and warnings in greater Portland. PIOs communicate with the public, the media, and other stakeholders before, during, and in the aftermath of an emergency. During emergencies, this group will launch the Regional Joint Information System and convene with any impacted agencies or other interested agencies to discuss strategy and methods for coordination.

Though some helpful resources already exist, these resources may be largely unknown and need better advertising so that community groups and community members are aware they are available to utilize before or during extreme heat events. For example, one participant shared that the Portland Bureau of Emergency Management (PBEM) has a program that can deploy engineered cooling solutions at events.

One participant recognized that maintenance for street trees is often underfunded, so Metro should integrate maintenance costs into existing grant programs, like the Nature in Neighborhoods grant program or right-of-way funding. Street trees should be explored as a first-last mile solution, and when not available, engineered shade structures should be built near transit. Also, it is extremely important for public agencies to preserve mature street trees, even when they impede the sidewalk or road, considering how long it takes for trees to grow to the size of mature trees.

Participants noted the differences between the heat index and temperature. The heat index is a measure of how hot it feels to the human body considering both humidity and temperature while temperature is just the measured degree of hotness or coldness of the air.

Lastly, one significant challenge to supporting the long-term maintenance needs of cooling solutions, like street trees or misting stations, is the limited capacity of public agencies or groups that would be responsible, such as Metro's Parks and Nature maintenance staff. Some strategies to address this challenge could include community involvement and partnerships (e.g., street tree stewardship programs, partnering with neighborhood organizations, pooling resources, etc.), incentive mechanisms and securing stable funding sources for ongoing maintenance, strategic planning and design, and building capacity and staffing for green infrastructure.

Suggested Recommendations

Participants shared several recommendations they would like to see in the final Cooling Corridors Study report.

- Participants advocated for reallocating Metro's budget to address heat events and related needs and impacts (e.g., equipment for emergency response employees, deployable cooling solutions, aging infrastructure).
- Emergency managers would like to have official Metro guidance on how to support non-staff community members during extreme heat events, such as unhoused community members in Metro-owned parks, to understand whether they must help them find transportation to cooling centers after parks are closed in the evening.
- Some Metro staff live in Clark County, Washington and lack access to or awareness of cooling resources. Metro should include Clark County in regionwide assessments of cooling resources and regionwide outreach and education efforts.
- One participant stressed that the capacity of the maintenance team from Metro Parks and Nature responsible for ongoing maintenance at all Metro parks is extremely limited and overwhelmed. Increasing staff capacity should be prioritized when funding is available.
- Rather than rely on natural bodies of water that can have increased health and water quality concerns during extreme heat events due to algal blooms, e-coli, and more, Metro can support the implementation of engineered water features, such as splash pads. However, it is important to consider implementation and operation costs.
- One participant mentioned the development of safe work procedures for Metro employees wearing significant levels of PPE.
- Participants shared that a publicly available regional heat index map (including air quality measurements) would be very helpful, especially if it is updated regularly. Some staff at Metro are currently working on a map of Metro facilities, which could be a starting point for the heat index map.

- Considering most policies are based on the heat index rather than temperature, it would be helpful for Metro, RDPO PIOs, or public health agencies to provide guidance for municipalities on how to report the heat index and help familiarize the public with how it differs from temperature.

Regional Work Group Charter and Survey

Cooling Corridors Study
Regional Work Group Charter

Mission statement
Provide a monthly forum to share recent work on Metro's Cooling Corridors study with public, private, and academic partners in the Portland region, as well as invite questions, comments, and feedback from partners.

Goals and objectives
As the regional work group for Metro's Cooling Corridors study, the group shall:

- Provide points of connection for partners who may be interested in learning about and providing feedback on the study.
- Learn from Metro's project team about recent work on the study.
- Provide policy and technical feedback to Metro's project team.
- Ensure the interests of the partner agencies, local jurisdictions, and other stakeholders are heard and help inform the study.

Meeting times
Meetings will be held monthly from March through September 2025.

Work group roster
The following is the work group roster as of March 2025, and will be updated as needed:

Name	Organization
Joey Williams	CAPA Strategies
Brian Landoe	City of Portland
Belinda Judelman	City of Portland
Jamie Stasny	Clackamas County
Karen Buehrig	Clackamas County
Martha Fritzie	Clackamas County
Leah Fisher	Clackamas County
Mitch Attig	Clean Water Services
Shannon Simms	Mayer/Reed
Brendon Haggerty	Multnomah County
Max Nonnamaker	Multnomah County
Vivek Shandas	Portland State University
Andrew Brown	State of Oregon
Eric Main	State of Oregon
Kathleen Johnson	Washington County
Miranda Seekins	Washington County

Cooling Corridors Study: Regional Work Group Survey

Title

Cooling Corridors Study: Share local efforts and provide feedback on draft recommendations

Description

Metro launched the Cooling Corridors Study this year to assess heat risk in greater Portland. The study will identify strategies to address more frequent extreme heat and worsening urban heat island effects that disproportionately impact vulnerable communities. It will also include recommendations that will inform Metro's future planning. The study report and recommendations will be available as a resource for other public agencies and organizations to support coordinated efforts across the region.

We want to hear from you!

Metro wants to know how your agency or organization is currently addressing heat challenges. This survey was created to learn about existing and upcoming efforts related to heat mitigation and adaptation at local agencies, and ways Metro can help support or complement those efforts. Your responses will inform recommendations from the Cooling Corridors Study.

Please complete this survey by August 1. It will take around 15 minutes to complete.

Visit oregonmetro.gov/coolingcorridors to learn more about the project and see project deliverables, including takeaways from engagement activities.

If you have any questions about this survey, please contact: Jai Daniels, associate climate planner, jai.daniels@oregonmetro.gov.

Questions

Section 1 – Contact information

1. Which agency or organization are you representing?
2. What is your first name?
3. What is your last name?
4. What is your job title (e.g., Senior Planner, Community Programs Manager, etc.)?
5. What is your email address?

Section 2 – Existing and Planned Heat Mitigation and Adaptation Efforts

6. What current or planned actions are you taking to prepare for, mitigate and/or respond to extreme heat events and urban heat islands? This can be a short paragraph or a list of programs, projects, or policies.
7. Do you have an adopted heat-specific or climate-related mitigation or adaptation plan? If so, please provide the name of the document, the year it was adopted, and a web address if possible.

Section 3 – Urgent Actions

8. If resources were limited, which five draft recommendations would you prioritize? Please select 5 options.
    - **Elevate extreme heat as a critical issue in the region and integrate heat-related considerations into planning, programs, projects, and policies.** (Example actions: Establish a chief climate officer at Metro, incorporate heat into all plans and policies in future updates, integrate heat in criteria and evaluation metrics for grant programs, establish a regionwide heat season.)
    - **Assess regional readiness for extreme heat events and identify funding streams and gaps in resources.** (Example actions: Conduct a regionwide assessment of existing cooling resources in the region, conduct a more comprehensive regionwide assessment of heat and climate related efforts in the region, assess availability of federal and state funding that can be allocated to resilience hub development.)
    - **Support existing community efforts to build heat and climate resilience across the region.** (Example actions: Continue to convene the regional work group focused on heat and climate resilience in the region, create a regional community-based work group focused on climate and heat resilience,

create a public database for community groups doing work around extreme heat, develop a formal relief network.)

- **Raise public awareness of extreme heat events and the dangers of these events.** (Example actions: Add extreme heat advisories and resource information to real-time arrival information for buses and trains at stops and stations and to public transit agencies' websites or apps.)
- **Connect public agencies, community groups and community members with resources to help prepare for and survive extreme heat events.** (Example actions: Develop a comprehensive inventory of existing cooling resources in greater Portland that can be used by community members during hotter weather, develop messaging and a distribution plan for how to share the inventory and map of cooling resources in translated languages, develop messaging and a distribution plan for how to share any heat-related materials in translated languages, distribute resources to community members, connect schools and workplaces with existing training materials and other heat safety resources.)
- **Support and expand emergency response actions at public agencies, special districts, utilities, and other workplaces.** (Example actions: Develop programming for Metro-owned and operated cooling centers (as a pilot for other cooling centers), expand free transit service to cooling centers during heatwaves to free transit service anywhere during heatwaves, revise policy so that splash pads and similar features are operationalized at certain temperature thresholds rather than time of year, deploy mobile hydration stations at public events during heatwaves.)
- **Use public facilities as demonstration projects and educational opportunities.** (Example actions: Implement green building policy at city agencies, pilot climate resilient trees and green infrastructure such as permeable pavement at local and regional parks.)
- **Support the private development of green buildings and green infrastructure in streetscapes.** (Example actions: Incentivize developers to install like green roofs and siding, incentivize developers to install green infrastructure on roadway projects, adopt a point-based system to assign points for features like cool roofs or green roofs in grant applications, consider zoning code amendments to require green building features or air-conditioning systems, streamline permitting green building features and green infrastructure.)

- **Improve access to air conditioning.** (Example actions: Partner with community groups to expand distribution or retrofit programs that provide A/C or heat pumps, provide free or low-cost A/C units for older buildings and vulnerable households, develop regional subsidy program for A/C installation, update development/building standards to require or encourage internal cooling systems)
- **Support the development of neighborhood-level resilience initiatives.** (Example actions: Analyze and identify potential locations for resilience hubs across the region, create a formal network of resilience hubs to support partnerships and resource sharing, adjust zoning regulations to make it easy to build resilience hubs, streamline permitting processes to simplify the development of resilience hubs or community centers, develop a grant program for developing and operating resilience hubs, develop heat-related programming for resilience hubs.)
- **Support tree planting in the region.** (Example actions: Set tree canopy coverage goals, develop and implement a rebate program to encourage residents to plant trees, fund a study on the feasibility of undergrounding utility wires across the region, create publicly accessible regional tree canopy and heat vulnerability dashboard, implement street tree planting pilot projects in the neighborhoods most vulnerable to heat.)
- **Preserve parks and open spaces.** (Example actions: Increase funding and staff capacity for park maintenance, provide financial incentives to private landowners who engage in restoration or conservation activities, publish regional design guidelines for development adjacent to preserved open space, mandate that developers preserve a percentage of site for open space, create funding programs to acquire private land to turn it to natural areas that are open to the public.)

Section 4 – Metro Support (Description: Metro is exploring how to best support heat-related actions local agencies and organizations are taking or hoping to take. Please respond with how helpful you would find the following support activities.)

9. How helpful would you find **technical assistance**?
    - Not at all helpful
    - Somewhat helpful
    - Very helpful
    - Unsure
10. How helpful would you find **guidance documents**?

- Not at all helpful
- Somewhat helpful
- Very helpful
- Unsure

11. How helpful would you find **publicly available maps and databases for tree canopy, air and surface temperature, existing cooling resources, etc.**?
    - Not at all helpful
    - Somewhat helpful
    - Very helpful
    - Unsure
12. How helpful would you find **regional coordination and coalition building**?
    - Not at all helpful
    - Somewhat helpful
    - Very helpful
    - Unsure
13. How helpful would you find **regional planning and policy making examples**?
    - Not at all helpful
    - Somewhat helpful
    - Very helpful
    - Unsure
14. How helpful would you find **financial support (e.g., incentive programs, grant programs, etc.)**?
    - Not at all helpful
    - Somewhat helpful
    - Very helpful
    - Unsure

Section 5 – Open Ended Feedback

15. Is there **specific** technical, data and/or other support you need from Metro? If so, please list your examples below.
16. Please share any additional thoughts and suggestions for ways Metro staff can support you.

Thank you

Thank you so much for your time and consideration!

Cooling Corridors Study: Survey for Regional Work Group members on local efforts and Metro's support

Metro shared a survey with members of the Regional Work Group to learn more about their climate and heat resilience work, gather feedback on draft recommendations, and reveal how Metro can best support their work.

Metro is in the process of developing the Cooling Corridors Study that is anticipated to be completed in Fall 2025. The study was designed to assess heat risk in greater Portland and identify strategies to address urban heat island effects and extreme heat across the region.

This study builds on work that is already being done in the region to build climate and heat resilience in vulnerable communities. The project team invited members of the Cooling Corridors Study's Regional Work Group to take a survey focused on this work and ways Metro can support and expand local efforts.

The Regional Work Group is made up of 16 representatives from 10 public, private, and academic partners in greater Portland composed of public, private, and academic partners. Nine of those representatives responded to the survey.

Who responded?

Bee Prepared

Clackamas County Public Health and Planning and Zoning

Clean Water Services (CWS)

Multnomah County Health Department

Portland Parks and Recreation Urban Forestry

Portland Public Schools (PPS)

Oregon Department of Transportation (ODOT)

Oregon Health Authority (OHA)

Washington County

Survey Feedback

The survey focused on learning more about existing local efforts and plans, how to prioritize recommendations and actions, and how Metro can best support local efforts.

Local Efforts and Plans

Participants were asked to share what current or planned actions their agencies or organizations are taking to prepare for, mitigate, or respond to heat.

Actions

Respondents reported a range of actions from immediate response to long-term resilience activities. Examples included performing risk and vulnerability assessments, mapping heat exposure and vulnerable populations, conducting pilot studies to test heat-adaptation measures or practices, funding community-based organizations, sharing public health communications and messaging, implementing cooling centers and tree planting programs, employing operational changes like early release days at schools during heatwaves, and updating design guidance to address the impacts of climate change.

Plans

Respondents were also asked to identify any heat-specific or climate-related mitigation or adaptation plans their agencies or organizations have developed.

- Clackamas County's Climate and Health Adaptation Plan (2025), Climate Action Plan (2023) and Climate Action Plan Implementation Guide (2023)

- Multnomah County's Climate and Health Resilience Plan (2025), Climate Justice Plan (expected Fall 2025), Climate Action Plan (2015), and Climate and Health Preparation Strategy (2014)
- Washington County's extreme heat response procedures (2023)
- City of Portland's Urban Forest Plan (2025), Climate Emergency Workplan (2022), Mitigation Action Plan (2021), Climate Action Plan (2015)
- Oregon Health Authority's annual climate and health reports
- ODOT's Climate Adaptation & Resilience Roadmap (2022), Climate Change Adaptation Strategy Report (2012), and Oregon Statewide Transportation Strategy (2013)
- Tri-County public health departments' Climate and Health Adaptation Plan (2025) and Regional Climate and Health Monitoring Reports (2023), (2021) and (2019)

Prioritization

Respondents were asked which draft recommendations they would prioritize if resources were limited. More than half of respondents highly prioritize tree planting, elevating extreme heat as a critical issue in the region, and integrating heat-related considerations into planning, programs, projects, and policies.

Other key draft recommendations included assessing regional readiness and funding gaps, supporting community-led heat resilience efforts, connecting stakeholders with heat-related resources, encouraging private development of green infrastructure, and improving access to air conditioning.

Opportunities for Support

Respondents were asked to rate how helpful certain support methods from Metro would be. Financial support, such as incentive programs and grant programs, was identified as the most helpful support method.

Additional Thoughts

Respondents were given the opportunity to share any specific support needs and suggestions for ways Metro staff can provide support. They asked for the following:

- **Documentation on the Cooling Corridors methods and public access to the study's charts, maps, and data** showing the most heat-vulnerable areas in the region.
- **More frequent updates on regional tree canopy coverage** to understand the impact of policies and programs on the growth and decline of urban tree canopy.
- **Access to other mapping data** including impervious surfaces, high resolution land cover classification, shading models, year-round air temperature data, surface soil temperature and water table levels, and presence of air conditioning in households.
- **Case studies highlighting best practices** for implementation.
- **Support for major changes in policy, building techniques, and standard practices** through funding programs, coalition building, model code, or regional policy changes.
- **Model polices and code for tree planting and integration of smart surfaces**, such as permeable pavement, in the public right of way.
- **Partnership with existing groups** like the City of Portland's Sustainability and Climate Commission and public health authorities.
- Metro to **limit funding for auto-dependent land use and car-centric roadways construction** projects.

One participant recognized that several of the draft recommendations are best accomplished by emergency management and public health authorities rather than Metro.

Key takeaways

Based on feedback from the survey, Metro learned the following:

- **Local agencies are already responding to extreme heat in the region**, but funding constraints limit implementation of existing or planned plans, policies, and programs.
- **Tree planting and elevating extreme heat as a critical issue** are high priority for local partners.
- **Financial support is the most helpful way for Metro to support local efforts**, followed by regional coordination, coalition building, model policies and codes, publicly available data and maps, guidance, and technical assistance.

Interested in learning more?

For more information see Metro's project website: oregonmetro.gov/coolingcorridors.

Disaster Preparedness and Community Resilience Workshops

Disaster Preparedness and Community Resiliency Workshop #1 Community Engagement Report

April 2025

Introduction

Metro and the region's Regional Disaster Preparedness Organization (RDPO) are working with public agencies and community-based organizations (CBO's) across greater Portland to prepare for and recover from disasters, such as earthquakes, fires, floods, storms and extreme weather events. There are four disaster preparedness and community resiliency projects in process that are seeking to better prepare the region for disasters and extreme weather.

- Emergency transportation routes (ETRs)
- Disaster-specific social vulnerability tools
- Preparing the regional solid waste system for disasters
- Cooling corridors study

Project staff are holding a series of workshops with representatives from community-based organizations to hear how the projects can be responsive to the needs of vulnerable communities. The input from workshop participants will inform targeted approaches towards addressing vulnerable communities' needs and strengthen social networks that contribute to a more resilient region.

Vulnerable communities are defined as groups or populations that are disproportionately impacted by natural disasters due to a combination of factors including social, economic, and environmental conditions. Through the workshop series CBO representatives will be invited to share their diverse lived experiences and the experiences of the communities who their organizations serve. The workshops will also invite organizations to exchange existing resources and knowledge.

The following report summarizes the discussions with participants at the Disaster Preparedness and Community Resiliency Workshop #1 on Thursday, April 3rd, 2025. This input helps inform project staff's understanding of community needs and discussion topics for workshops #2 and #3, scheduled for summer and fall 2025, respectively.

Methodology

Metro and RDPO synthesized four unique projects related to disaster preparedness and community resiliency into a coordinated series of three workshops. The consolidated approach aims to reduce the burden on community-based organizations to participate in the projects. Workshop #1 was a two-hour virtual meeting held on Zoom. Project staff presented an overview of each project. Participants engaged in facilitated small-group discussions and

reported highlights from their small group discussion to the larger group at the end of the workshop.

Projects

These community engagement discussions will inform four projects currently underway at Metro:

- Emergency transportation routes (ETRs). They are priority surface roads in the event of an emergency necessary for:
    - Rapid damage assessment, debris clearance or repair
    - Lifesaving and life sustaining response activities
- Disaster-specific social vulnerability tools project. Updates Metro's existing social vulnerability index.
    - Include environmental risk variables and expand units beyond census tracts
    - Improve user friendliness of existing online tool
- Preparing the regional solid waste system for disasters. Planning and managing the solid waste and recycling system in the Portland region.
    - Disaster debris planning
    - Solid waste system resilience
- Cooling corridors study. Adapting to frequent and longer extreme heat and higher temperatures.
    - Identify areas of heat risk
    - Create community-tailored intervention strategies for heat risk areas

Participants

Over 50 staff at organizations who serve vulnerable communities in the region were invited to participate in workshop #1. Nine organizations participated in the workshop. Stipends of $300 were made available to each organization that participated in the workshop.

Participant Name	Organization	Focus Communities
Alma S.	Adelante Mujeres	Latine Women & families
Javier C.	Centro Cultural	Latino

Participant Name	Organization	Focus Communities
Lydia M.	Ethiopian and Eritrean Cultural and Resource Center	East African refugees & immigrants
Moises E.	Northwest Family Services	Families
Alondra F.	Trash for Peace	Trash and recycling stakeholders
Erin T.	Upstream Access	Disabled people
Erica C.	Familias en Acción	Spanish speaking Latino communities
Halimo A.	African Youth & Community Organization	East African refugees & immigrants
Amy J.	Todos Juntos	Children, youth & families

Small Group Discussions

Workshop participants were split into three different small groups. Two of the participants requested Spanish interpretation services accommodations. These participants were grouped together in a breakout which was serviced with simultaneous interpretation. Each small group included a minimum of two staff – a facilitator and notetaker. Small group staff were provided with a facilitation and notetaking guide to help maximize participation and feedback gathering. No more than four participants were in each small group.

There were two sets of discussion questions that explored disaster preparedness and community resiliency. Each small group was given 25 minutes to discuss each set of questions. The first set of questions explored disaster preparedness in the context of the past. The second set of questions asked about their community needs related to disaster preparedness.

Findings

Several key themes emerged from the workshop discussions. These themes were gathered by synthesizing written notes from each breakout session and the large group share-out at the end of the workshop. Participants input is summarized below, organized by three key themes:

1. Vulnerable communities have specific needs and barriers that disaster planners can address.
2. Some vulnerable communities face common communication challenges.
3. Community-based organizations, that often navigate building trust and limited resources, are foundational for community resiliency efforts

Theme 1: Vulnerable communities have specific needs and barriers

- Vulnerable communities often find themselves in survival mode just trying to meet their basic needs. They often don't qualify for subsidized air conditioning or Portland's clean energy funding. Even then, resources arrive late.
- Multi-family housing currently experiences in-frequent garbage and recycling pick up which would exacerbate under natural disasters. Multi-family housing already experiences several issues such as hazardous waste left behind, dumpster diving, and more trash.
- Certain members of the community are afraid to seek services even in the event of the disaster due to immigration enforcement fears. Similarly, these communities also experience a stigma around seeking help at community shelters.
- In addition to mobility challenges, community members with disabilities fear prolonged power outages may no longer power their essential medical equipment.
- Rural communities such as Canby and Molalla experienced power outages for 14 days after an ice storm.
- Moving trash was difficult for rural communities. Often relied on neighbors and farm equipment for removal and/or burning.

Theme 2: Communication challenges with vital information

- There is lots of information, but it is challenging to discern which information is correct. Too much information is overwhelming.
- Community desires a disaster plan that is comprehensive and clearly communicated.
- Limited English proficiency concerns. Community members experience limited English proficiency. Disaster planning should continue to bridge the gap with these communities.
- Community members did not know what physical location to get "official" resources.

- Communities have relied less on television for emergency info. Facebook and texting emergency announcements are more common, but truthfulness and transparency remain concerns.
- CBOs are forming partnerships to address disaster preparedness training for Spanish speaking communities, but resources are limited

Theme 3: Social networks are vital

- CBO's are leading discussions on the needs of people with disabilities and disaster preparedness.
- Churches, rural social groups, neighbors, DIY, mutual aid were effective in past recovery processes
- Local government was visibly providing updates during extreme events. CBO's were essential for proactive, during and post-disaster efforts.
- There is a need for neighborhood/community resilience hubs that have resources- e.g. emergency kits, education, workshops, connections to local resources/fire dept, and shelter.
- Foster trust between government and CBO's.

Next Steps

The project staff will consider the input provided at the workshop and incorporate, as feasible, into their projects. This input will also help to inform the next workshop agenda. Workshop #2 is scheduled for Monday, June 23rd 10a.m. to noon. Project staff will invite workshop #1 participants and other organizations who were not available for the first workshop.

However, every community engagement opportunity has room for growth. The next workshop should prioritize the following continuous improvement opportunities. First, each workshop has a capacity of ~20 community members. The team will focus on outreach to increase workshop attendance. Second, the small groups discussion experience would benefit from asking fewer questions. Fewer questions allow community members to meaningfully expand on their responses. Third, the project leads wish for more time engaging with CBO's during the workshop. The remaining workshop series may have less presentation time from project leads.

Date: Tuesday, July 22, 2025
To: Regional Disaster Preparedness Teams
From: Alfredo Haro, Planning, Development, and Research Communications Team
Subject: Regional Disaster Preparedness Workshop #2 Public Engagement Findings

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Introduction

Metro and the local Regional Disaster Preparedness Organization (RDPO) are collaborating with community-based organizations (CBO's) across greater Portland to prepare for and recover from disasters, such as earthquakes, fires and extreme weather events. There are three disaster preparedness and community resiliency projects currently conducting public engagement to better prepare the region for disasters and extreme weather.

1. Emergency transportation routes (ETRs). Identifying priority surface roadways in the event of an emergency necessary for:
    - Rapid damage assessment, debris clearance or repair
    - Lifesaving and life sustaining response activities
2. Disaster-specific social vulnerability tools project. Updates Metro's existing social vulnerability index.
    - Include environmental risk variables and expand units beyond census tracts
    - Improve user friendliness of existing online tool
3. Cooling corridors study. Adapting to frequent and longer extreme heat and higher temperatures.
    - Identify areas of heat risk
    - Create community-tailored intervention strategies for heat risk areas

Project staff are holding a series of workshops with representatives from community-based organizations to hear how the projects can be responsive to the needs of vulnerable communities. The input from workshop participants will inform targeted approaches towards addressing vulnerable communities' needs and strengthen social networks that contribute to a more resilient region.

The following report summarizes the discussions with participants at the **Regional Disaster Preparedness Workshop #2** held on Monday, June 23rd, 2025. The gathered public engagement input helps inform project staff's understanding of community needs and discussion topics for Workshop #3 that is scheduled for Fall 2025.

Methodology

Vulnerable communities are defined as groups or populations that are disproportionately impacted by natural disasters due to a combination of factors including social, economic, and environmental conditions. During the workshop, CBO representatives shared their diverse lived experiences and the experiences of the communities who their organizations serve. The workshops will also invite organizations to exchange existing resources and knowledge.

Metro and RDPO synthesized three unique projects related to disaster preparedness and community resiliency into a coordinated series of three workshops. The consolidated approach aims to reduce the burden on community-based organizations to participate in the projects. Workshop #2 was a two-hour virtual meeting held on Zoom.

Project staff presented an overview of each project. Afterwards, participants engaged in facilitated small-group discussions and reported highlights from their small group discussion to the larger group at the end of the workshop. The small group discussions were organized as follows:

- Workshop participants were assigned into four small groups with one group dedicated to Spanish-only speakers serviced with interpretation accommodations. No more than four participants were in each small group.
- Each small group included a minimum of two staff – a facilitator and notetaker. Small group staff were provided with a facilitation and notetaking guide to help maximize participation and feedback gathering.
- There were two sets of discussion questions: one explored emergency transportation routes, another explored cooling corridors and social vulnerability tools. Each small group was given 25 minutes to discuss each set of questions.

Participants

Over 50 staff at organizations who serve vulnerable communities in the region were invited to participate in workshop #2. Eleven organizations participated in the workshop. Stipends of $300 were made available to each organization that participated in the workshop.

Name	Organization	Focus Communities
Alma S.	Adelante Mujeres	Latine Women & families
Janet S.	Centro Cultural	Latino
Lydia M.	Ethiopian and Eritrean Cultural and Resource Center	East African refugees & immigrants

Name	Organization	Focus Communities
Olga C	Community Pulse Association	Slavic, Eastern European
Alondra F.	Trash for Peace	Trash and recycling stakeholders
Erin T.	Upstream Access	Disabled people
Jim W.	Northwest Family Services	Family and child stability
Halimo A.	African Youth & Community Organization	East African refugees & immigrants
Ravin L.	Todos Juntos	Children, youth & families
Juan P.M.O.	Unite Oregon	Multi-cultural
Chris C.	Oregon Food Bank	Food insecurity
Rose G.	Centro Cultural	Latino

Findings

Several key themes emerged from the workshop discussions. These themes were gathered by synthesizing written notes from each breakout session and the large group share-out at the end of the workshop. Participants input is summarized below, organized by three key themes:

1. Vulnerability
2. Collaboration and ongoing disaster preparedness efforts
3. Funding Opportunities in Disaster Preparedness

Theme 1: Vulnerability

Vulnerability is defined as a community's state of being susceptible to harm, exposure to danger, damage, either physically or emotionally. Participants describe characteristics related to their community's specific physical, social, and cultural environment.

Disaster Preparedness

- May become a component in community leadership development, but not yet incorporated. Community does have concern about the Cascadia subduction zone. Rural fire departments will struggle to reach all residents.
- Efforts should be concentrated where harm is greatest because vulnerable communities also make up a significant portion of the population.

- There's a shortage of culturally competent facilitators and educators; identifying candidates is a priority.

Language and Accessibility

- Lack of Spanish-language workshops and materials limits understanding of land hazards and emergency procedures.
- Multilingual information is essential, with specific needs for Spanish, Russian and Ukrainian communities.

Fear and Distrust

- Widespread fear of interacting with emergency services due to political climate and perceived authority. Reluctance to call for help or attend public meetings. Fear is especially strong among immigrant, refugee, and non-English-speaking communities.
- Addressing fear requires showing up where the community gathers—presence builds trust.

Populations at Risk

- Infants, elders, houseless individuals, outdoor workers (e.g., farmworkers, roofers), athletes on turf fields. People with disabilities, especially those in high-rise buildings or rural areas, face challenges regulating temperature and accessing resources.
- Immigrants and refugees often live in poorly weatherized housing with limited A/C. Immigrants also face heat-related risks and transportation challenges; need culturally relevant safety education in the workplace.
- Isolation during disasters is a major concern, especially for seniors and rural residents.
- Seniors face compounded challenges: mobility limitations and language barriers

Cooling Centers and Housing

- Limited access to cooling centers. Supportive housing often lacks adequate A/C or weatherization.
- Power outages can severely impact independence for those relying on healthcare and mobility technology.
- Ongoing need for assistance with basic resources like food and rental payments
- OMSI area with heavy concrete needs cooling interventions.

- Libraries are viewed as informal cooling centers.
- Rural communities lack centralized cooling spaces like malls or libraries.

Theme 2: Collaboration and ongoing disaster preparedness efforts

Theme 2 describes explores how community members and various CBO's work together to build resilience, prepare, respond, and recover from emergencies.

Local Government and Agencies

- Worked with Washington County Emergency Planning and Aging & Disability Services.
- Collaborated with Portland Bureau of Emergency Management, Oregon Emergency Management, and Department of Health Services.
- There are strong ties with county emergency managers.

Community Organizations

- Unite Oregon partnered with Saint Anthony Church during ice storms.
- Centro Cultural engaged with Metro, Red Cross, and
- Red Cross and 211 have been active collaborators.

Trust Building and Relationship Development

- Ongoing efforts to build trust between government and community.
- Emphasis on relationship-based approaches and avoiding duplication of efforts.
- Knowledge-sharing systems empower community leaders to disseminate information.

Preparedness Resources and Outreach

- Organizations have distributed emergency bags and kits (water, dry food, first aid) to community members. However, emergency kits need improved content tailored to diverse audiences.
- Providing emergency guides and flipcharts available for facilities.

Cooling Centers and Housing

- Cooling kits and stations deployed at events to raise awareness.
- Centro Cultural previously served as a cooling station.
- New houseless center in Hillsboro include A/C-equipped units.

Strategic Planning and Infrastructure

- Pre-staged pallets of water across Oregon and Clark County, with extra supplies in hotter regions (Southern & Eastern Oregon).
- Centro Cultural exploring ways to support future emergency preparedness and cooling projects.
- Focus on connecting community members to existing resources and improving accessibility.

Theme 3: Funding Opportunities in Disaster Preparedness

Specific financial strategies and resources for addressing disaster related challenges.

Access and Language Barriers

- Language accessibility remains a barrier to broad preparedness education.
- Adelante Mujeres offers a disaster preparedness workshop, but it's not yet available in Spanish due to limited funding.

Gaps and Needs

- Undocumented individuals lack access to financial support during major disasters.
- There's a need to promote renter's insurance programs within vulnerable communities.
- Funding is needed for facilitators, educational materials and training programs.

Cooling Infrastructure and Support

- Investment in public pools and splash pads as cooling resources.
- Create bigger pools or aquatic centers.
- Air conditioning units are essential, but upfront costs are a barrier. Financial support should go beyond rebates.
- Establish dedicated facilities for older adults and people with disabilities.
- Private sector should provide cooling support for their employees.
- City pools are too small; need extended hours and open access during extreme weather.
- Schools lack adequate A/C, impacting student safety during heatwaves.

Funding Sources and Stewardship

- Community-based organizations (CBOs) should steward funding to ensure effective distribution.
- Maintaining current funding is critical; additional funding would expand outreach and impact.

Next Steps

The following comments identified community needs, guiding future actions or courses of action to address vulnerability.

Emergency Transportation and Infrastructure

Goals

- Ensure safe, accessible evacuation and emergency routes.
- Prioritize infrastructure restoration and traffic management.

Actions

- Designate TV Highway, Highway 26 as emergency transportation routes.
- Identify roads restricted to first responders.
- Explore abandoned roads in the Hillsboro outskirts for emergency use.
- Ensure ADA-accessible and walkable routes with safe street crossings.
- Provide clear signage for detours, especially near schools and pickup zones.

Cooling Corridors and Public Infrastructure

Goals

- Expand access to cooling resources during heatwaves.
- Promote public spaces as cooling hubs.

Actions

- Extend city pool hours during extreme heat (beyond current 1–2 hours).
- Connect neighborhood parks with shaded trails.
- Expand Hillsboro's tap water station model to other cities.
- Enable libraries to rent hammocks or water sports gear.

- Open more cooling centers to accommodate larger groups.
- Require apartment complexes to store water and emergency supplies.

Energy Resilience and Housing Policy

Goals

- Ensure reliable access to energy for vulnerable populations.
- Modernize housing policies to support climate adaptation.

Actions

- Invest in alternative energy sources for apartment buildings.
- Mandate landlords to provide air conditioning units.
- Revise restrictions on window-mounted A/C units.
- Recognize energy access as essential for survival during climate events.

Community Communication and Outreach

Goals

- Build trust and awareness through culturally relevant communication.
- Equip communities with tools and knowledge for emergencies.

Actions

- Educate residents on cooling strategies and emergency alert systems.
- Distribute weather radios to households.
- Train first responders in cultural competency and bilingual communication.
- Utilize eastern European-language media, churches, and stores for outreach.
- Collaborate with volunteers and local networks for grassroots engagement.
- Maintain ongoing dialogue with communities as needs evolve.

Mapping and Resource Allocation

Goals

- Prioritize vulnerable communities in planning and response.
- Use data-driven approaches to guide decisions.

Actions

- Map high-risk areas based on population density, household types, and past harm.
- Partner with CBOs to identify underserved populations.
- Allocate resources equitably, with a focus on those most affected.
- Identify community centers as resource hubs.
- Recognize Gresham and SE Portland (past 102nd and Powell) as extreme heat zones.

Proactive Resilience and Collaboration

Goals

- Shift from reactive to proactive emergency planning.
- Leverage partnerships for shared resources and knowledge.

Actions

- Build resilience before emergencies occur.
- Share resources across partner organizations.
- Continuously assess and adjust priorities based on community feedback.
- Ensure planning reflects the percentage of vulnerable populations served.